THE LANCET.

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The Presidential Address
ON
CANCER OF THE DUODENUM AND SMALL INTESTINES.

Delivered before the Medical Society of London on Oct. 12th, 1914,

BY SIR JOHN BLAND-SUTTON, F.R.C.S. ENG., LL.D.,
SURGEON TO THE MIDDLESEX HOSPITAL.

GENTLEMEN,—The distribution of cancer in the section of the alimentary canal known as the gastro-intestinal tract is remarkable. Cancer is very common in the stomach, but in the intestine between the pylorus and the ileo-cæcal valve it is uncommon. Primary cancer is rare in any part of the small intestine, but it occurs more frequently in the duodenum, short as it is, than in the jejunum or the ileum.

CANCER OF THE DUODENUM.

A study of the effects produced by cancer of the duodenum shows that the time-honoured division of this section of the small intestine into first, second, and third parts is of little use for the purposes of clinical medicine. It is more convenient, following Sherren, to call the portion above the bile papilla the supra-ampullary segment, the portion containing the bile papilla the ampullary, and the remainder the infra-ampullary segment.

Supra-ampullary Cancer.

Duodenal ulcer is a common affection, and observations made on the living in the course of operation and on the dead have shown that the ulcer, for it is nearly always solitary, occurs most frequently in that section of the duodenum immediately adjacent to the pylorus. The chronic indurated duodenal ulcer is usually situated in the first 2 cm. of the duodenum, and four-fifths of the patients are men.

Many surgeons who have had great experience in gastric surgery believe that a chronic ulcer of the stomach is a precancerous condition. There is much evidence to support the view that a chronic gastric ulcer, like a chronic ulcer of the leg, a lupus patch, or a chronic syphilitic ulcer of the tongue, occasionally becomes cancerous. All admit the difficulty of early diagnosis in cancer of the alimentary canal from the pylorus downwards; the disease furnishes no sign until it becomes septic or obstructs the lumen of the gut. This explains our great ignorance of the early stages of cancer arising in the stomach, duodenum, and on through the intestine to the anus. It is insisted by some surgeons that if chronic gastric ulcers are liable to become cancerous the same changes should affect chronic duodenal ulcers. Observations teach that cancer of the duodenum is a rare disease, and there is no evidence that it arises in a chronic duodenal ulcer. Malignant disease of the duodenum of any kind is uncommon, and few specimens of cancer of the small intestine are preserved in the hospital museums in London. This is sufficient to indicate not only that the disease is uncommon, but the important fact that a cancer of the duodenum is rarely excised by surgeons. The only example of malignant disease in the supra-ampullary section of the duodenum I have seen associated with a chronic duodenal ulcer was a sarcoma. A man, aged 55, had well-marked symptoms of pyloric obstruction, and at the operation a polypoid mass could be felt in the duodenum and was easily pressed into the pyloric ring. There was a well-marked scar on the serous surface of the duodenum opposite the pylorus. I resected the pylorus with the adjacent part of the stomach and the duodenum to within half an inch of the bile papilla. The duodenum was closed and the stomach also. Union of stomach and small intestine was re-established by a posterior gastro-jejunostomy. The parts exsected show a fungating growth springing from the floor of the chronic ulcer. Microscopically it is a spindle-celled sarcoma.

The post-operative course of this case is of some interest. A few days after the operation the duodenal stump leaked, and much bile-stained fluid escaped through the lower angle of the abdominal incision. Frequently the fluid was quite clear, alkaline, and excoriated the skin. This fluid was mainly pancreatic juice, and in a few days the patient was in the condition of Pawlow's famous dog. This animal had an artificial pancreatic fistula, and the escaping fluid eroded the skin. The dog was tied up in the laboratory and at night scraped the plaster from the wall and lay with its belly in the débris. This suggested a plan of treatment, and a bed of sand was prepared for the clever dog, and the pancreatic juice no longer eroded the skin. I did not give my patient a bed of sand, but the erosion of the skin was prevented by covering the skin surrounding the fistula with gauze or lint soaked in paroleine.

A perusal of Pawlow's experimental observations helped me a great deal in the management of my patient. We know the average amount of fluid secreted daily by important organs, such as the liver, kidneys, and stomach, but no one has determined the average amount of fluid secreted by the pancreas, because the pancreatic secretion varies in quantity with the nature of the food. The greatest stimulant is fat. In my patient there were times when the fluid flowed in an almost continuous stream and quite clear. This happened when he swallowed milk. A fat-free dietary was then arranged, consisting of whey, beef-tea from which fat was carefully removed, water, and tea. The fistula soon closed. It was unfortunate that after piloting the patient through many difficulties he died a month after operation with apparently an abdominal dissemination of the disease. The man being a Jew his relatives refused a post-mortem examination.

Circum-ampullary Cancer.

Cancer arising in the duodenal mucous membrane around the bile papilla is known as circum-ampullary cancer, in order to distinguish it from cancer arising in the ampulla or in the common bile-duct, but the three varieties lead to obstruction of the bile-duct, jaundice, and distension of the gall-bladder. There can be little doubt that cancer of this section of the duodenum would often escape detection if it were not for the obstruction it offers to the flow of bile from the common duct. It is very difficult to distinguish clinically between circum-ampullary cancer, ampullary cancer, and malignant disease of the head of the pancreas, for all give rise to obstructive jaundice often associated with an over-distended gall-bladder.

Cancer of the Ampulla.

From a practical standpoint the distinction between cancer arising in the mucous membrane

of the duodenum near the ampulla and cancer arising in the ampulla may not be important, but primary cancer of the ampulla is interesting in itself and exhibits some remarkable peculiarities. Nowhere in the body does so small a growth lead to such grave interference with digestion. A cancerous growth, sometimes no larger than a cherry, will block the outflow of bile and pancreatic juice, and cause intense jaundice and great emaciation by interfering with digestion in consequence of the obstruction to the outflow of pancreatic juice. The three clinical signs of cancer of the ampulla are painlessness, intense jaundice, and great emaciation. The pathological features of the disease are its slight tendency to infiltrate surrounding structures, the infrequency of dissemination, and the enormous dilatation of the main bile-ducts and the gall-bladder. A feature of cancer of the ampulla which distinguishes it from cancer of the gall-bladder is the infrequency with which it is associated with gall-stones. In spite of the local nature of the disease it quickly destroys life. When cancer of the ampulla has caused jaundice death usually follows within six months.

The daring resourcefulness of modern surgery is well exemplified in the attempts to deal with this singular form of cancer, and there can be little doubt that some means will be found for dealing with it successfully. Some valuable papers have been written on this subject by Hartmann, Körte, Schuler, Kausch, and Upcott. An American surgeon, Outerbridge, has recently collected 100 reported cases.

Very few specimens of ampullary cancer have been described in London, and there are few specimens in the metropolitan museums. Perhaps it is only necessary to draw attention to this deficiency in order to have it remedied.

Cancer of the Transverse or Infra-ampullary Duodenum.

This is the common place for duodenal cancer. The symptoms associated with it are like those set up by cancer of the pylorus, but the vomited matter contains bile and pancreatic juice and is sometimes very offensive. The cancer is usually of the constricting type, and the duodenum above the constriction becomes enormously distended. The dilated stomach and duodenum constricted by the pylorus resemble a bilocular stomach. Cancer sometimes arises in the middle of the transverse portion of the duodenum, and the growth involves the vena cava and the superior mesenteric vessels. A constricting cancer in this part of the duodenum may be so hidden as not to be visible until the gut is opened. Rolleston has seen the channel of the gut so narrowed that its lumen in the cancerous section would only admit the passage of a pencil.

I had an opportunity of operating on a man in whom the duodenum was completely obstructed by cancer. The patient, aged 56, was invalided from Burma on account of persistent vomiting and rapid emaciation. Cancer of the stomach seemed to be the most probable cause of the illness, but no lump could be felt in the stomach or its neighbourhood. The vomiting resembled that seen in the condition known as a "vicious circle" after gastro-jejunostomy; it was very offensive. At the operation the stomach was found to be contracted, and on turning it over to examine the posterior surface I found a small contracting growth in the middle of the third part of the duodenum. This hard ring of cancer completely obstructed the gut, so that the bile and pancreatic juice regurgitated into the stomach, where they mingled with the gastric juice and ingested fluids to be ejected as filthy vomit. The duodenum above the stricture was enormously dilated and produced an appearance like a bilocular stomach. The cancer had involved the walls of the duodenum and implicated the superior mesenteric vein; excision of the affected area of the gut was impracticable. Posterior gastro-jejunostomy was performed, and the distended section of the duodenum was also anastomosed with an adjacent coil of jejunum. The vomiting ceased after the operation, and the patient began to take food freely and assimilate it. Pain ceased, and we hoped that his life might be prolonged. Cardiac dyspnœa began to cause trouble, circulatory complications arose, and he died 14 days after the operation. A post-mortem examination confirmed the opinion, formed at the time of the operation, in regard to the impracticability of removing the cancerous portion of the intestine, for it involved the pancreas extensively as well as the large blood-vessels.

In the infra-ampullary cases the vomit always contains bile and pancreatic juice; this is of diagnostic value. Pancreatic juice can be demonstrated by the digestion of fibrin in the filtered vomit, with the addition of a few grains of bicarbonate of soda.

CANCER OF THE JEJUNUM AND ILEUM.

Tumours of the jejunum and ileum are interesting pathologically and clinically. A tumour of any kind in the small intestine is rare, and those belonging to the benign group are, as a rule, pedunculated; the propulsive movements of the intestine not only affect the contents, but influence tumour formations within its walls. The simple tumours arising in the intestinal walls may be lipomas, some are described as myomas, and many as sarcomas, but whatever the structure the constant propulsive efforts of the intestine tend to force the tumour towards the lumen of the bowel until it projects within it covered merely by a layer of mucous membrane. The danger to be feared from such a tumour is invagination, or intussusception, of the gut, for the tumour, acting as a foreign body, is urged along the bowel, and being fixed to the bowel wall drags it in and produces an intussusception which, if unrelieved by art or the timely sloughing of the intussusceptum, ends in fatal obstruction.

The peristalsis of the small intestine probably exercises moulding effects on deposits of cancer within its walls as well as on benign tumours; this applies to secondary as well as primary deposits. A man with disseminated melanoma was admitted into the Middlesex Hospital with intestinal obstruction. In the face of widespread melanomatous deposits an operation for the relief of the obstruction was regarded as useless; to the astonishment of the physician the symptoms abated and the patient passed a long slough of intestine which proved to be a piece of ileum containing a deposit of melanoma. This had led to intussusception, and the intussuscepted piece of gut sloughed and the man recovered.

The museum of the London Hospital contains a portion of ileum in a state of intussusception caused by a secondary deposit of melanocarcinoma. The specimen was obtained from a woman admitted with signs of strangulated femoral hernia; at the operation the supposed hernia proved to be an

enlarged lymph-node charged with black pigment. The woman died, and the invaginated gut was discovered after death. The seat of the primary growth is not stated.

CANCER AND ACCESSORY PANCREATIC TISSUE.

A consideration of tumours of the small intestine would be incomplete without reference to the suggestion that cancer of the small intestine may arise in an accessory pancreas. Small detached masses of pancreatic tissue have been detected in the stomach near the pylorus and in the duodenum; they may be situated in the mucosa, the muscularis mucosæ, or in the muscular layer of the intestine, and measure 3 or 4 cm. in diameter. An accessory pancreas is occasionally situated at the apex of a diverticulum. Although such diverticula usually arise in the duodenum, they have been observed in the lower parts of the ileum and regarded as persistent Meckelian diverticula. A pancreatic and a Meckelian diverticulum have been found in the same individual. It is possible that pancreatic diverticula are produced by traction; they are by no means harmless, and several cases have been reported in which a diverticulum, with a pancreas at its apex, has invaginated into the bowel and produced intussusception. In a remarkable case reported by O'Connor an inverted diverticulum caused intussusception in a boy aged 13. On the fourth day after the attack he passed 11¼ inches of gangrenous intestine with the diverticulum attached.

It is necessary to mention accessory pancreas when considering cancer of the duodenum and small intestine, because those pathologists who still believe that cancer arises in embryonic vestiges think it probable that this perversion may arise in islands of pancreatic tissue. There is no evidence to support this theory, nor that which attributes duodenal cancer to morbid changes in Brunner's glands. Like the theory attributing parotid chondromas to relics of Meckel's cartilage, they belong to the domain of fiction. Such theories indicate that some pathologists, like poets, are not devoid of imagination.

CANCER AT THE END OF THE ILEUM.

The frequency of ulcer and cancer at the pylorus is not repeated at the ileo-cæcal valve. This part of the small intestine, notwithstanding its narrowness, is rarely attacked by morbid growths, and they have been rarely the subject of critical analysis. For many years I have been interested in this question and find obstructive growths at the valve are of four kinds: (1) cancer arising in the ileum; (2) cancer arising in the cæcum; (3) malignant growths in the vermiform appendix; and (4) hyperplastic tubercle of the ileum.

Cancer at the ileo-cæcal junction, in the cases I have seen, has been of the circular contracting type and leads to almost complete occlusion of the opening. The contraction is so extreme that it is necessary to make a careful search in order to detect it, and as a rule the disease is more easily felt than seen. It is a remarkable thing that such inconspicuous growths give rise to widespread metastasis in the abdomen. For example, an elderly woman had a large ovarian cyst associated with frequent vomiting, two conditions forming a sinister combination and suggestive of malignant disease of the bowel associated with the ovarian cyst. The removal of the cysts—there were two, one as big as the patient's head and the other the size of a turkey's egg—was easily accomplished, but the presence of much solid matter in the walls of the cyst convinced me that the solid matter was implanted cancer. The distended condition of the small intestines led me to search carefully for an obstruction, and I found a thin, narrow, hard ring of growth completely obliterating the ileo-cæcal orifice. The ileum was joined to the ascending colon by a lateral anastomosis. The woman survived and lived free from pain and able to look after her house for 12 months. In this instance the primary lesion, though contracting and atrophic, had shed cancerous cells into the general peritoneal cavity which had fallen on the walls of the ovarian cysts and converted them into solid cancerous masses.

The frequency with which ovaries and ovarian cysts are converted into solid blocks of cancer by the implantation of cells shed from a primary focus in the gastro-intestinal tract is not properly appreciated by gynæcologists, but I am glad to note that the number of converts is steadily increasing, and my scepticism in the existence of primary cancer of the ovary is intensified by further experience.

Cancer arising in the cæcum does not obstruct the lumen of the bowel at such an early stage as when it arises in the colon, but there is an anatomical arrangement by which cancer arising in the cæcum can obstruct the ileum. The terminal two inches of the ileum rests in close contact with the wall of the cæcum; if cancer or hyperplastic tubercle attacks the mucous membrane of the cæcum immediately in relation with the terminal portion of the ileum, the intermediate tissues become infiltrated with growth, the walls of the ileum are implicated, and ultimately its lumen becomes obstructed.

A study of the specimens of primary cancer of the small intestine preserved in the hospital museums in London shows that the disease presents the same characters as in the colon. Some are of the annular contracting type, constricting the gut as if a piece of cord had been tightly tied around it. In others the disease sprouts like a cauliflower into the bowel; there is a massive form which envelops the intestine with a hard collar of new growth. An annular constricting cancer strictly limited to the ileal aspect of the ileo-cæcal valve is associated with signs of intestinal obstruction, rendering accurate localisation of the obstruction a matter of uncertainty. There is nothing in the signs and symptoms approaching the definiteness characteristic of a constricting cancer of the third part of the duodenum.

The chief feature connected with cancer of the gastro-intestinal tract is its extreme frequency at the pylorus and its rarity at the ileo-cæcal valve. The age distribution of cancer of the small intestine agrees with that of the stomach and colon.

PRIMARY MALIGNANT DISEASE OF THE APPENDIX.

In order to show the difficulty of properly assessing the frequency of cancer at the ileo-cæcal valve the following case is useful:—

A man, aged 73, came under observation with symptoms of chronic intestinal obstruction, and a lump was easily detected in the region of the cæcum. It was freely movable and painless. The age of the patient, the absence of fever and tenderness, the presence of a movable swelling in the right iliac fossa, accompanied with intestinal stasis and vomiting, indicated that the mass was in all probability a cancerous growth in the cæcum.

This view being confirmed in the course of the operation, I excised the cæcum and joined the ileum by an end-to-side anastomosis in the ascending colon. The patient died suddenly six days after the operation.

The cæcum and exsected portion of the ileum were preserved, and on subsequent examination the mass proved to be a primary tumour of the vermiform appendix which had infiltrated the adjacent walls of the ileum and cæcum, including the segments of the valve. Microscopically the growth possesses the features of a sarcoma. There were no signs of dissemination, and no enlarged lymph-nodes were detected. Such growths in the appendix are probably rare.

HYPERPLASTIC TUBERCULOUS AFFECTIONS IN THE NEIGHBOURHOOD OF THE VALVE.

An analysis of the various growths which arise at the ileo-cæcal junction makes it evident that some of the tumours in this situation labelled after operation cancer are in some instances tuberculous. The hyperplastic form of intestinal tuberculosis is most common in the cæcum and cæcal end of the ileum. It differs from other varieties of tuberculous disease in that the lesion is not destructive and leads to an increase in the bulk of the part affected. The disease begins in the submucous or subserous tissue and spreads to the other coats of the bowel. The new tissue contains clumps of giant-cells and sometimes calcareous deposits. Occasionally the thickened bowel is enveloped in a mass of fibro-fatty tissue such as sometimes surrounds chronic tuberculous kidneys. The cavity of the bowel is narrowed, sometimes a track no larger than a writing-quill remains, and the ileo-cæcal valve is obstructed; in rare cases the disease is limited to the valve. This condition is very liable on mere naked-eye examination to be mistaken for cancer of the ileum or cæcum, and it is very probable that some cases in which the cæcum has been excised for a tumour casually regarded as cancer and the patients have remained free from recurrence the disease was really hyperplastic tuberculous disease.

From the operative point of view the distinction between cancer and hyperplastic tubercle is not important because the treatment for both conditions is the same—excision, but is a matter of great concern in regard to prognosis. Cancer and hyperplastic tubercle left to run their course end fatally, but the latter is curable by excision. Hyperplastic tubercle of the bowel was not recognised till 1891; then it received attention from Billroth, Hartmann, and Pilliet. Very little attention has been given to the disease in Britain, although there is reason to believe that tuberculous disease attacks the cæcum more frequently than any other part of the gastro-intestinal tract.

MELANOSIS OF THE COLON.

Melanosis is a morbid condition of the mucous membrane of the colon that has received little attention in Great Britain. My experience is limited to one example.

A septuagenarian spinster had suffered from recurring attacks of intestinal obstruction. At last colostomy was necessary, and a constricting annular cancer was excised from the iliac colon. Four months later the cut ends of the bowel were rejoined successfully. The mucous membrane of the excised portion of the gut was of an inky blackness, but the cancer in the bowel had the microscopic structure common to primary cancer of the colon and was devoid of pigment. The blackness of the mucous membrane depended on a deposit of pigment in the connective tissue of the mucosa.

I am unable to state how much of the colon was pigmented because the patient recovered from her operation, but I examined her thoroughly with the object of finding evidence of a melanoma or an ulcerated pigmented wart, but found none. This pigmentation of the colon puzzled me. During the Christmas vacation, 1912, I visited the museum at Friedrichshain, Berlin. There I saw a colon with the same deep pigmentation. The intense blackness affected the colon uniformly, being sharply limited above the ileo-cæcal valve and extending thence to the anus. The terminal portion of the vermiform appendix was obliterated, but the mucous membrane of its proximal unobliterated part shares in the pigmentation.

Professor Dr. Ludwig Pick has discussed in an exhaustive manner the anatomical, histological, and chemical features of this rare form of pigmentation. He also gives a useful summary of nearly a score of similar cases, beginning with one recorded by Virchow (1847) and three described in England by C. J. Williams (1867), G. Newton Pitt (1891), and H. D. Rolleston (1892). Pick states that the colouration is not due to metallic deposit; it is essentially a pigmentation of the connective tissues of the mucous membrane and hæmatogenous.

Although the pigmentation begins, as a rule, at the ileo-cæcal valve and extends to the anus, cases have been observed in which it does not involve the whole length of the colon. When the colic membrane is involved throughout the pigmentation is discoverable at the anus by means of a speculum. The condition is mainly a clinical curiosity, but if detected in the course of a clinical examination it might have an undue significance attached to it. It will be useful to have some further observations on this curious pigmentation.

CONCLUSION.

I selected cancer of the small intestine as the subject of the address this evening because it is a matter neglected in the ordinary works on surgery. It is intended to hold a discussion at our next meeting on the Surgery of Tumours of the Large Intestine, and we hope to have an exhibition of illustrative specimens of tumours of the small intestine as well as tumours of the cæcum and colon. The council is hopeful that a series of specimens illustrating hyperplastic tuberculous disease of the cæcum will be shown. This disease, often mistaken for cancer of the cæcum, has not, as already mentioned, received much attention in this country, although Henri Hartmann made it the subject of the oration in 1911. The society will also be grateful for the loan of specimens illustrating primary cancer of the vermiform appendix, a disease concerning which there is much uncertainty. It will also be useful to obtain some further observations on the curious pigmentation of the colon.

CARDIFF MEDICAL SCHOOL.—At the last meeting of the council of the University College of South Wales it was stated that the anonymous benefactor, whose offer of a large sum for the building of the new medical school at Cardiff was accepted early this year (*vide* THE LANCET, Feb. 21st, 1914, p. 568), had since promised a further sum of £10,000 towards the building fund of the medical school.

Introductory Address
ON
THE POSITION OF PSYCHIATRY AND THE RÔLE OF GENERAL HOSPITALS IN ITS IMPROVEMENT.

Delivered at the Opening of the Winter Session, 1914–15, at the Middlesex Hospital on Oct. 1st, 1914,

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GENTLEMEN,—In the first place I desire to express my thanks to the council of the medical school for the honour they have done me in asking me to give the introductory address which is customary at the opening of each of our winter sessions. That I particularly esteem the privilege will be readily appreciated when I remind you of where we are gathered, and that this is the first function which has taken place in the Bland-Sutton Institute of Pathology, which, with its laboratory, lecture theatre, and museum, will always be a monument to Sir John Bland-Sutton's princely munificence, to his affection for the hospital and medical school, to his devotion to science, and to his belief in her power to relieve suffering humanity. And who will dare attempt to gauge the direct and indirect influence of this institute? Sir John's catholicity is well known, and I feel assured of his sympathy when I venture to hope that psychiatry, which is the branch of medicine in which my interests are specially centred, will have its fair share of the blessings that doubtless will be showered from this institute.

The pleasure of our gathering is, however, marred in one particular, for we have to lament the absence of His Serene Highness, Prince Alexander of Teck, whose active interest in all that pertains to the welfare of the hospital and medical school is so deeply appreciated, and whose presence we should have enjoyed to-day were it not that his military duties have made it impossible.

Few academic sessions can ever have opened amidst such momentous events as does the present one; and whatever diffidence I felt in accepting the responsibility of this year's address has not been diminished by the fact that I am conscious there are other members of the school's staff who would in all likelihood have chosen a theme more in consonance with the stirring events with which our thoughts are thrilled: indeed, realising that such a course would probably prove the more acceptable, I did make an attempt to recast the draft of my remarks; but, not unmindful of Pliny's injunction to the cobbler and wishing to eschew anything like an "ultracrepidarian" reputation, I have harked back to my original purpose, which was to bring before your notice (A) the present position in which psychiatry stands; (B) the essential cause of this position; and (C) to endeavour to convince you that general hospitals—more particularly those to which medical schools are attached—can, if they choose, effect a material improvement therein.

(A)—PSYCHIATRY THE CINDERELLA OF MEDICINE.

Psychiatry, or by whatever other term you prefer to denote the study and treatment of mental diseases, has sometimes been characterised as the Cinderella of general medicine; that is to say, it has been alleged to be a branch (first) which, compared with other medical subjects, lacks sustaining interest, and (secondly) whose study is apt to side-track its devotees into blind alleys, where their scientific enthusiasm is chilled and their legitimate aspirations to maintain an honourable position for themselves are disappointed. Now while I can emphatically assert that any such description is a very one-sided one, and wholly untrue as respects the first part of the allegation, there is in its second part a modicum of truth, which has, I believe, barred the way to many a young medical man who would otherwise have maintained his initial interest in the subject both to its and his own advantage, and which therefore had better be clearly understood.

(*a*) *Wherein the Statement is not True.*

To refute the allegation that the study of psychiatry in any way lacks sustaining interest is not difficult. What student or medical man, possessed of his normal share of scientific inquisitiveness, has ever filled a resident post in an institution for the insane in which, affiliated to a medical school, teaching and research work go hand in hand with its administration, and has come away imbued with any such notion? I have never met him. On the contrary, if really necessary, it would be an easy task to demonstrate that the subject possesses an absorbing and, indeed, transcendent interest; that in its compass—not easy to define—its borders insensibly merge into those of other departments of general medicine; that in not a single medical or surgical case can the mental side of the patient be safely ignored; that the truth of this last fact—often forgotten—not infrequently comes home to the medical man in attendance with startling and unpleasant force; that without a sound knowledge of at least the elements of psychiatry such circumstances may cause him much embarrassment; and, lastly, that, to the medical man who is tempted to dive below the mere surface of the subject, there is a wealth of problems, each well deserving a life's devotion, whose non-solution impedes successful treatment, but whose elucidation may with confidence be expected to restore to a normal life many of those afflicted with the direst of human calamities, who, in the light, or rather the obscurity, of existing knowledge, are now too often doomed to premature death or life-long segregation from their friends. And, of still greater moment to the public, there is good ground for believing that, with the removal of some of the perplexities with which the subject is at present strewn, not only will many a man and woman be able to ward off the necessity of such segregation, but also will the path of many a one be rendered smooth where now, by reason of the traveller's neuropathic oddities and obsessions, it is thorny and often pursued only at a cost of much mental pain. The accomplishment of all this by no means spells a fresh goal. The problems which now await solution are, for the most part, fresh hill-points which have come into view when the summit of others has been attained by the indefatigable labours of certain of our predecessors and *confrères* in the specialty. That they have been all too few and often ill requited is true enough, but in their accumulated observations they have left a heritage which is a veritable treasure house. In no other branch of medicine is the harvest whiter than in psychiatry,

and I fain would persuade some of you who are about to enter the medical profession to come in and gather it.

(b) *The Allegation True in Two Counts.*

Wherein then, you will ask, is psychiatry even remotely deserving to be dubbed a Cinderella? The epithet is deserved, I fear, as respects two counts: (1) The unpopularity of the asylum medical service; and (2) the manner in which psychiatry's claims are overlooked by philanthropists. Both are, in my opinion, dependent primarily on the same cause.

1. *The unpopularity of medical work in asylums.*—The first and probably most obvious count is the undeniable reluctance of young medical men and women either to enter the specialty at all, or, if they do join it, to do so with a view to applying themselves seriously to it as their life's work. Certain it is that at the present moment public asylums—even those most favourably situated—find it increasingly hard to obtain suitable candidates from which to fill vacancies in the junior ranks of their medical staffs; so acute has been the difficulty that, at a large asylum in a medical staff comprising a superintendent and six assistants, I have known as many as three of the latter positions filled at the same time by locumtenents—in other words, by men between whom and the institution the link is so small that it can be severed at a week's notice. No one will deny that such a position of affairs is a menace to the present and future welfare of any such institution; it is highly desirable that it should be realised by the public in whose hands, mainly through their municipal representatives, the remedy largely lies.

(*i.*) *Causes of this unpopularity.*—The task of exposing and grappling with the difficulty has within the last three years been undertaken by a committee of the Medico-Psychological Association, and is set forth in an admirable and comprehensive report which will be found in this month's number of the *Journal of Mental Science*. This report is all the more weighty, and should the more recommend itself to the public, by reason of the fact that nowhere are the interests of the patients subordinated to those of the medical men; and because, with the pecuniary advancements claimed for some of the latter, there is *pari passu* a demand for increased opportunities for adequate initial training and future study and research. The subject is also dealt with at some length in the Sixty-eighth Report (pp. 40, 41) of the Commissioners in Lunacy, which was published this year. No doubt the paucity of applications for these by no means unimportant and not ill-paid asylum posts is to some extent due to the large increase in the number of available public health appointments (whether as medical officers of health, school medical officers, or tuberculosis officers), to the passing of the Insurance Act, and to the improvements effected in the medical departments of the Royal Navy and the Army.

But the difficulty is of too long standing to be explained by those three factors, though it is they, doubtless, that have rendered it acute; otherwise it might be left to right itself on the principle of supply and demand. Nor, while refraining from any expression of opinion as to the merits or demerits of the suggestion that public asylums (which are at present managed by local authorities) should all be linked up to form one common service, do I believe that the adoption of that policy would of necessity render asylum work more popular as a career for medical men.

The crux of the situation lies in the fact that with the gradual increase in the number of medical appointments in the specialty, consequent upon the steady growth in the number of public asylums, the proportion, which the number of posts justly regarded as "plums"—as offering an assured, independent, and satisfactorily remunerated position—bears to the number of subordinate and hitherto far from assured positions, has unfortunately become less and less. Time was when most public asylums were small institutions, medically staffed by a superintendent and one assistant: the latter's status was comparable to that of a house physician; quite equitably only bachelor's quarters were provided for him; he was looked upon as a bird of passage and as such regarded himself. Additions have, however, been made so persistently to asylums that now, out of the 97 existing county and borough asylums in England and Wales—providing between them more than 300 medical posts—no less than 40 contain over 1000 patients, and of these in about 14 the number is more than 2000, while only 16 contain less than 500 patients. Manifestly, with such a great augmentation in the size of asylums, the number of medical officers who, for the safety of the institution, must be regarded as permanent officials has largely increased, but in the meanwhile custom has—I venture to suggest, needlessly and unwisely—decreed that the position of those officials should remain much as it was when asylums were small units; so that, while in former days 50 per cent. of asylum medical appointments were coveted and assured positions, the same can now be said of scarcely 30 per cent. In other words, the junior's aphorism that "the assistant medical officer of to-day is the superintendent of to-morrow" is lamentably untrue. Were it always a fact, the present shortage in applicants would never have arisen; but to express the truth we must paraphrase and say rather that the "superintendent of to-day is the assistant medical officer of yesterday"; and, indeed, the briefest consideration of the expectation of life suffices to demonstrate that unless men are seldom appointed to the position of superintendent until they are well past the prime of life—a policy not to be recommended—only a limited number of assistants can count on attaining to that position.

(*ii.*) *To overcome the unpopularity.*—But if I have hitherto painted to you the darker side of asylum service, I am entitled to show you its brighter aspect; and it has one. In the first place, the disabilities of the service, some of which I have indicated, are recognised and admitted as evils. That is a great step, and it is gratifying to add that, not only have several local authorities substantially mitigated them by granting (α) *increases in salaries and the provision of separate houses for assistant medical officers*, lending hope to our being within measurable distance of seeing the principle accepted that no resident male official in our asylums, whose services it is desired in the interests of the institution to retain over a series of years, shall be debarred either from marriage or from other social advantages, including a reasonable independence of position; but also a healthy spirit has arisen calling for evidence of greater scientific training in the specialty on the part of those practising in it, as witnessed by (β) *The institution of diplomas in psychiatry* by the Universities of Durham, Edinburgh, Manchester, Leeds,

and Cambridge (enumerated in the order in which they adopted this step); besides which mention may be made of the fact that in London and at the four Scottish Universities psychiatry is now a branch in which the degree of Doctor in Medicine may be obtained. The institution of these diplomas is a recognition of a movement of probably far-reaching importance, and it is not an exaggeration to say that it marks an epoch in the progress of psychiatry. That they will become registrable by the General Medical Council is a further step that I venture to hope will not be long delayed. Some of you are conversant with the beneficial effects upon the sanitary service of the country which followed upon the enactment of the compulsory holding of diplomas in public health; and many of us believe that similar benefits would flow from a like policy in the case of the diplomas in psychiatry; not, of course, that it is in the mere possession of diplomas that their potency resides, but rather in the knowledge and systematic study of which they are the hall mark. The existence of these diplomas has already emphasised the pressing need for (γ) *the establishment of psychiatric clinics*. The fact that one, to which I shall have occasion again to refer, will shortly be at work in the metropolis under the ægis of the London County Council is a matter for earnest congratulation; and not less satisfactory is the recent erection at Cambridge of laboratories for the prosecution of experimental psychology. May the time rapidly come when these institutions will no longer stand out as oases, when none of our medical schools but is in possession of both of them, and when none of our towns of any magnitude is lacking the former. The evolution of these clinics is one of the directions towards which it is of paramount importance to secure not only the sympathy but also the active intervention of general hospitals. Such clinics would enable the study of the various branches of psychiatry and psychology to be coördinated into a well articulated scheme, embracing ante- as well as post-graduate study; and would be the means of securing, as is so much to be desired, (δ) *a more satisfactory position for psychiatry in the medical curriculum*. Few if any teachers in psychiatry can be satisfied with the position that their subject occupies in the medical curriculum. The compulsory attendance on four-fifths of 12 systematic lectures in the school and 12 clinical demonstrations at a recognised institution for the insane is what is usually demanded of the medical student. The subject enjoys the distinction—some will say an enviable one, and there is much to be said for their contention—of being the only compulsory one in which (as respects by far the majority of qualifying examinations) the student is not examined. Far be it from me to advocate yet another addition to the student's trials by examination, nor have I sufficient experience as an examiner to enter into the controversy of written examinations *versus* credit for work done in the class as ultimate tests of the candidate's fitness to practise his profession—*in medio tutissimus ibis* will, I suspect, be the solution. But it does seem to me anomalous that of all courses which the student is called on to attend he is exempt from any proof of competent knowledge in the one with which the liberty of the subject is so intimately involved. Either the certificates of attendance on the course (which is now compulsory) should include satisfactory evidence of knowledge attained and work done, as well as mere attendances, or the final examination in medicine, both written and clinical, should always include a test as to the candidate's knowledge of mental diseases.

Adverting for a moment to the nature of this course—of all subjects, the teaching of mental diseases is one which lends itself rather to clinical methods than to systematic lectures; and freedom should be given to the teacher to proportion the time between the methods according to circumstances. But that privilege would go only a small way towards adequate reform; for as matters now and would still stand, the clinical demonstrations necessarily all take place in institutions removed from the medical school—commonly at a considerable distance, though sometimes, it is true, comparatively near at hand. In either event the student sees only certified cases of insanity, and for the most part cases in which the stage of the malady is considerably advanced. He learns something of the classification of mental diseases, of the diagnosis of the forms as they are presented to him in the asylum and of their treatment, and is instructed in the mode of filling in certificates of mental unsoundness. This is all to the good, and I should strongly deprecate the abandonment of asylum clinical demonstrations. But what he almost wholly misses is an opportunity of seeing those borderland and incipient cases, with the difficult technique of whose examination he should have, if not a familiarity, at least an acquaintance—that is, if he is to be competent to render that spiritual aid which, without encroaching on the province of the priest, is more and more expected of medical men; for they it is, as said the Dean of St. Paul's at the last International Medical Congress, who now hear the confessions of anxious and conscience-stricken patients. If it is pardonable to glance at the commercial aspect of the question, I have no hesitation in saying that on ability or inability to deal with these cases will often depend the retention of a family in the doctor's general practice. Moreover, under existing arrangements, the student's access to cases of mental disorder is usually limited to a weekly visit, whereas it cannot be denied that of all branches of clinical medicine the student of mental disease should have, under proper supervision, free and daily access to a mental ward and mental out-patient department.

For the realisation of these aspirations I would again repeat that we must enlist the interest and energetic coöperation of general hospitals, and in this direction I need hardly say that, to my mind, the establishment at Middlesex Hospital of a special department for nervous diseases was a very bright omen, even limited as it at present is to out-patients, though the addition of beds to it would, I am sure, materially add to its sphere of usefulness.

(iii.)—Advice to entrants into asylum service.—Before quitting the subject of the present unpopularity of asylum service I should like to express, firstly, my conviction that, with the recognition that has already taken place of some of the existing drawbacks, the neck of the difficulty has been broken; and, secondly, and speaking with a full sense of responsibility, my hope that, despite any warnings he may have heard, no student of this school who is willing to work hard and apply himself seriously to the study of psychiatry as a branch in which to specialise will be deterred from following his bent. If I may be permitted to offer

a word of counsel I would, however, advise him to be cautious in his method of procedure, and especially not to let considerations of £ s. d.—important though they may be—be the only nexus between himself and his choice of place. After serving the usual term as house physician or surgeon he would be well advised to endeavour to attach himself to an asylum affiliated to a medical school, whence, after an adequate period of study and training and after making sure he has attended all the courses obligatory for one of the diplomas in psychiatry, he can migrate to other institutions which, though perhaps less favourably situated, offer advantages in salary and promotion. No such aspirant for reputation in psychiatry need, I am convinced, fear being side-tracked and, even if he does not ultimately reach the position of superintendent—and not every military officer becomes a general nor every naval officer an admiral or even a captain—he will be able to present claims to an honourable and assured position which cannot be disregarded.

2. *Psychiatry's claims overlooked by philanthropists.*—Though the pecuniary recompense paid to the actual toilers after knowledge is too often slender and in the nature of a pittance the progress of science, nevertheless, owes much to the liberality of wealthy benefactors. To criticise the direction of their benevolence would be a sorry and ungrateful act. Rather, did time permit, would I enumerate all the endowments that have been made in recent years to the various departments of medical research. Such a catalogue, while redounding to the credit of the donors, would serve my purpose by emphasising a patent hiatus that most assuredly deserves to be filled in. For at any rate during the 20 years during which I have been connected with the specialty, with one exception, conspicuous by its solitariness as well as by its munificence and far-sighted policy—I refer to the Maudsley Hospital in course of erection—I cannot call to mind any donations or legacies which have had for their object the endowment of psychiatric research in this country.

This is the second count in which, I suggest, psychiatry is indeed and undeservedly the Cinderella of medicine. By no manner of means can this cold shoulder which she receives be explained by any lack of problems of interest; indeed, nothing would be more congenial than to be called upon to give an address entitled, "Things we should Like to Know in Psychiatry," to an audience of millionaires anxious for some guidance in the distribution of a moiety of their wealth; nor would it be difficult to supplement the list of problems with chapter and verse of the immediate benefits that might be expected to flow from their answers. It is to be doubted, however, if such a campaign, even though entrusted to a master in oratory, would be as moving as knowledge gathered by personal observation—who sees with the eye, believes with the heart, and there is no little sagacity in the dictum that "you cannot convert a man unless you persuade him he is obeying the dictates of his own heart."

For that and other reasons it is a misfortune that so slender a proportion of ratepayers, particularly of their *intelligenzia*, ever visit and make themselves personally acquainted with the 97 asylums which their money provides and in which are maintained some 105,000 patients. Many of these institutions are situated in country districts away from the throb of active life, and, except for the visits they receive from official visitors and from the friends of a proportion (often too small) of the patients, they are left severely alone—verily, out of sight out of mind. And what would the intelligent ratepayer learn? Speaking generally, he would be amply satisfied with all he saw, and that his money was being economically and humanely spent. Here and there he would be impressed by centres of serious effort to unravel, with an energy deserving of the highest praise, the perplexities which surround the cause and treatment of mental affections. His interest aroused, as it inevitably would be, particularly if it were backed by some knowledge of the intensive methods of research and their cost in other branches of medical science, he would begin to inquire into what relation the sums spent on psychiatric research bear to the cost of the patient's maintenance. He would probably be a little staggered to learn that the latter (not even including the cost of repairs to fabric and other capital charges) is well over two and three-quarter million pounds a year; but with what derision and almost incredulity would he hear that, at a liberal estimate, it would be hard to show that even so insignificant a fraction as 0·2 per cent. of this sum is spent in organised scientific research?

It is, however, a fact of much significance and one very pleasing to chronicle, that quite lately the Government has set apart, to be distributed by the Board of Control, the sum of £1500 to be spent in each year in the encouragement of the investigation of mental defect in the broadest sense of that expression—thereby setting the imprimatur of the State upon the claims of psychiatry. This recognition and the advent of the Maudsley Hospital are bright streaks which, it is to be hoped, herald the dawn of a brighter day for Medicine's Cinderella.

B.—CAUSE OF PRESENT POSITION OF PSYCHIATRY.

The essential cause of the present position of psychiatry has its roots in the past and is undoubtedly the divorce that has been decreed between it and other departments of medicine. This is due to the prevailing custom, not only of treating the majority of cases of mental disorder in institutions devoted solely to that end, but also of refusing to admit such cases to general hospitals. This custom is not new, for we have records of the existence, as far back as the year 1400, for example, of a small establishment at Charing Cross and another at Barking for at least the segregating, if not the treatment, of a few insane persons; and it probably owes its origin to the failure to realise that many morbid mental symptoms are due to the same pathological conditions as are the symptoms of other systemic diseases. That "a precedent embalms a principle" has surely been exemplified here, and nowhere, I should imagine, with more disastrous results; more particularly has the custom retarded progress in the case of those areas which have the good fortune to possess within them a university—with which intimate coördination of research workers, in lieu of the mischievous and wasteful system of segregation, could have been sought.

It cannot, I admit, be gainsaid that at least superficially there are serious differences between cases of mental disorder and cases ordinarily regarded as eligible for admission to the wards of a general hospital. Though each of these differences presents difficulties of its own, I

cannot agree either that any one of them ought to be allowed to be a ban on the patient's entrance into a general hospital, or even that all of them in conjunction constitute any insuperable obstacle. On the contrary, I urge that the time has come when they should cease to be permitted to encompass a gulf, almost indeed as "profound as that Serbonian bog," which has so long separated the treatment of mental from other forms of disorder.

C.—WHEREIN CAN GENERAL HOSPITALS BENEFIT PSYCHIATRY?

General hospitals can benefit psychiatry by bridging over the gulf to which I have just alluded; and this, I submit, could be effected by the establishment in general hospitals of mental wards with corresponding out-patient departments. In the case of hospitals in association with medical schools they would naturally assume the form of full psychiatric clinics.

Specialism in General Hospitals.

Specialism in general hospitals has most assuredly come to stay, and though some deprecate its triumph they may at least take comfort from the fact that in its birth it was the twin of the inevitable complexity born of the progress made by medical science. The tendency to build special and independent hospitals for this and that disorder seems, and I think happily, to be on the wane. This has been effected by the response made by general hospitals to the demands of specialism; and now many a large hospital strives to have under its own roof departments for all the specialties that have arisen—wards for diseases of the eye, of the nose and throat, of the ear, of the skin, for nervous diseases, for genito-urinary diseases, for cancer, children's wards, maternity wards, and a dental department. But the gamut is incomplete, for if there is one department that, willy-nilly, has been dubbed a specialty it is psychiatry. Yet in our own country, so far as I am aware, not a single general hospital can boast a psychiatric clinic in the full sense of the term.

The debt that the public owes to general hospitals and to their medical staffs, who gratuitously and so lavishly give their time, would indeed be hard to compute. It sits lightly on the shoulders of most of those who use those institutions because they are ignorant of the work that goes on within their walls; they regard the cure of their malady as an empirical procedure. It is only the more enlightened that have any glimmering of the fact that each case is a new problem; that its history, course, and result are laboriously recorded, and are subsequently not pigeon-holed as dust collectors, but classified to form a living library for reference in future cases.

Consciousness of this debt and desire not to be presumptuous make one hesitate in any way to criticise; but, if I may be forgiven using a somewhat hackneyed quotation, I will take leave to say to general hospitals, and to throw into my question a spice of reproach, "Canst *thou* not minister to a mind diseased?" I am convinced they can if they will.

The Pyschiatric Clinic.

Mental wards in general hospitals are not an entirely modern conception. There may have been other examples; but it is certain that in the year 1724, when Guy s Hospital was established, its founder stipulated that insane persons discharged from certain other general hospitals were to be received; and in 1797 a special "house" in connexion with the hospital was built which continued to receive insane patients down to the year 1859. That it was not a success, and that, down to its abolition, the then Commissioners in Lunacy pressed for its removal into the country, are facts which have sometimes been put forward as evidence against the soundness of the principle. But the further fact should be noted that it was expressly stated that the 20 cases, which this mental ward was to accommodate, were to be all certified as incurable; and it is indisputable, from the ward's annual returns, that it was not uncommon for a year to pass without any admissions, that discharges were few, and that apparently none were recorded as having recovered—surely the negation and antithesis of our conception of a psychiatric clinic.

The ideal Psychiatric Clinic has probably yet to be developed, and each new one should mark in its design progress in method of treatment. As regards this country it has as its prototype the admirable admission hospital which now exists as a detached unit in several of the county asylums. While brains are more important than bricks, no little cunning is nevertheless requisite in the actual design of the building; for, besides adequate out-patient rooms, it internally has to provide accommodation for every type of mental case, so arranged that no patient need be disturbed, alarmed, or suffer any shock by the behaviour of a fellow patient; and withal, as much of the treatment in bed as possible should be capable of being in the open air. There must, moreover, be means of classifying the patients according to the stages they attain towards convalescence. Opportunity should be provided on a liberal scale of employing every known special form of treatment which experience teaches promotes mental recovery. Properly equipped clinical rooms for examination of patients on admission and afterwards are essential. Rooms adaptable for work in practical psychology should be included, and a certain amount of laboratory space would also be needful; but as to the latter, the situation of the clinic, within the curtilage of a general hospital, would enable advantage to be taken of existing laboratories.

That such an institute could prove a failure is as inconceivable as inestimable would be its benefits.

Out-patient departments.—As ancillary adjuncts to the wards, mental out-patient departments would, of course, be a necessity, and of their power to stave off many a threatened mental breakdown I have not the shadow of a doubt. In the general hospitals attached to a few medical schools (among which is Middlesex Hospital) and in at least one public asylum they already exist; but I can see no reason why they should not be established in connexion with every general hospital in the country, nor why the expert knowledge of the medical officers of institutions for the insane should not be freely available and made use of—that they would be readily given there need, I am sure, be no misgiving. Such out-patient departments, if they are to fulfil all the functions I have in view, should be attached to the general hospitals and not to the asylums.

Mitigating the stigma of insanity.—Owing to much misunderstanding, both as to the liability to

relapse and on the question of the influence of heredity, a most unfortunate stigma attaches to a person known to have had a mental breakdown, especially if the case has been placed under legal certificates. Whilst wholly undeserved in a large proportion of cases, how real it is in the view of the public and how powerfully it operates as a deterrent to prompt and efficacious treatment, only those of us who see these cases fully appreciate. No amount of preaching will stifle this sentiment; but the institution in general hospitals of the psychiatric unit, access to which could be obtained through the ordinary portals of the hospital, would be the most powerful factor possible in nullifying its evil influence.

Teaching facilities.—Upon the advantage that would accrue to the students and to post-graduate study and research I have already dwelt. Our students, by daily observation, would be enabled to familiarise themselves with cases not crystallised but in plastic and incipient stages—the very forms that they will meet in general practice.

Opportunity would also be given to the general nursing staff in turn of becoming acquainted with mental nursing—to the advantage of both branches of nursing.

Legal restrictions have sometimes been advanced as reasons against the possibility of use being made of general hospitals for that purpose. Speaking quite unofficially (as I am throughout this address), I would merely say that I believe that the legal difficulties have been exaggerated, and I do not think they would operate to prevent the establishment of psychiatric clinics. It is true that to utilise the latter to their full extent some amendments in the present law would be needed, and there is good reason to hope that ere very long these will be obtained, and that among other facilities they may render possible the coöperation between asylum local authorities and the governing bodies of general hospitals.

CONCLUDING REMARKS.

My task is done. If this address has consisted only of commonplaces, each useless perhaps by itself, my object has been to bring them to a focus, to place somewhat more in the limelight the claims of psychiatry, and to put forward a plea for a wider sympathy with its needs. If peradventure one be found here whose attention has been engaged by any of my remarks, I beg him not to be satisfied with taking for granted what I have said, but to look into the question for himself; I have confidence that his interest, once aroused, will not flag, but will bear fruit. As to the part in the problem I hope some day to see general hospitals play, if not presumptuous, I would venture earnestly to ask the authorities of this hospital to consider the feasibility of adding to their units a psychiatric clinic. Has it not been the steadfast determination of the Middlesex Hospital to provide the fullest opportunities for teaching, study, and research in every branch of medical science, not only as respects the preliminary and intermediate subjects, but also on its clinical side? If I have dared to suggest that a gap exists in the latter, it is one that, as far as I am aware, is common to all other general hospitals in this country, and if the Middlesex Hospital resolved to lead the way in filling it in or bridging it over its action would surely be no departure from its considered policy, but rather the fulfilment of its highest and best traditions.

INCONTINENCE OF URINE IN WOMEN.

BY DAVID NEWMAN, M.D. GLASG., F.R.F.P.S. GLASG.,
SURGEON TO THE GLASGOW ROYAL INFIRMARY.

As observed clinically, cases of incontinence of urine in women may be divided etiologically into four classes: those in which the incontinence is secondary to some vesical lesion, such as cystitis, calculus, or tumour; those in which it is due to a bacillus coli infection of the bladder associated with localised hyperæmia around the neck and in the lower part of the trigone; those in which there has been some injury to the neck of the bladder or to the urethra; and those where no history of traumatism can be discovered and no lesion can be found on physical examination. Incontinence arising in the course of vesical disease or from bacillus coli infection will not be included in our present inquiry; attention will be limited to conditions involving injury to the neck of the bladder and urethra, and to those cases in which local examination reveals nothing to the eye.

Some kind of injury, obstetrical or surgical, is by far the most common cause of incontinence in women. In those who have borne children, especially multiparæ, the neck of the bladder or the urethra is liable to suffer injury to the muscular tissues, the structures which control the discharge of urine. During parturition the sphincter of the bladder is exposed to injury and the structures of the urethra may be overstretched; or by the introduction of large surgical instruments, and especially by that most unsurgical procedure digital examination of the bladder, the urethra and neck of the bladder may be so seriously injured that control of the escape of urine is lost. Doubtless the female urethra may be dilated either with the finger, with forceps, or with a full-sized urethral speculum, while the patient is under an anæsthetic, without producing much harm. Even after considerable dilatation rapid recovery may occur, but there are not a few cases where undue dilatation of the urethra and neck of the bladder leads to what has been regarded as insuperable incontinence of urine and never-ceasing annoyance to the patient. It is the purpose of this article to show how these cases can be improved or cured by operation.

On standing or on sudden exertion urine escapes. This is very distressing to the patient, and prevents her from associating with her friends or going about with any freedom. The escape, whether it be continuous or intermittent, is always beyond control, and necessitates wearing of gauze pads, which require to be perpetually changed if irritation from the discharge is to be avoided. Even with the most careful precautions considerable suffering may be induced by excoriation of the external genitals; the odour becomes offensive, the knowledge of the condition of matters prevents the woman from going into society, and her life becomes in every way miserable.

In these cases the mucous membrane and muscular walls of the bladder are usually healthy; the structures of the neck alone have been injured. There is no serious degeneration of the tissues, the nerve supply is good and efficient, and the condition may be cured by operation.[1]

[1] In an article illustrating certain urinary conditions in women associated with frequent or painful micturition (Glasgow Medical Journal, May, 1913) the writer mentioned an operation he employed for such cases, but did not describe it in detail. The object was to unite the fibres of the sphincter at the neck of the bladder and narrow the urethral canal throughout its course. The object of the operation about to be described will be seen to be different.

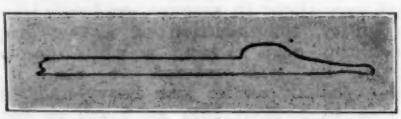
In the second class of cases, those in which no disease or traumatism can be discovered, the patient seems to be reduced to the state of the infant who passes urine unawares, and as if the control of the will was in abeyance. The will has no power to control. Much the same condition is seen in nocturnal incontinence in young girls; in these, however, the incontinence is during sleep or just at the time of awaking.

The incontinence may begin in various ways. Generally the development of the ailment is slow. A small quantity of urine escapes almost unknown to the patient except for the wetting of the garments. Gradually the accident becomes more frequent, and larger quantities of urine escape from time to time. No importance or significance is attached to the condition, it may be many weeks or months, but as matters grow steadily worse the patient and her friends become distressed and alarmed as to the future, especially as medicinal treatment produces little or no improvement. Ultimately complete incontinence becomes established with all its evil effects, both mental and physical. It is one of the most distressing and intolerable of the minor maladies to which females are subject, and the more so as seldom a cure by operation is attempted. The case is simply allowed to drift because a belief has been accepted by many surgeons that little or nothing can be done.

It is outside of the scope of this article to give an account of or to criticise the many methods which have been adopted from time to time to cure incontinence in women, the object being only to describe an operation which the writer has found to be successful in a considerable number of cases during the last 15 years. He first used it in 1899. In almost all the cases the incontinence was of old standing, so that the muscular elements of the sphincter were wasted and incompetent. Consequently the object of the operation was not to restore the sphincter action, an end no doubt desirable, though unfortunately not attainable, but rather to offer simply a mechanical obstruction to the too easy escape of urine. The operation was therefore directed to diminishing the lumen of the first three-quarters of an inch of the urethra, and at the same time constructing a firm mound of mucous membrane on the floor of the bladder just inside the neck—to imitate, as it were, the obstruction seen in enlargement of the middle lobe of the prostate in the male.

The patient may be placed either in the lithotomy or in the elbow-knee position. In the following description we will adopt the former; the pelvis is well elevated, the knees widely apart, and the

FIG. 1.

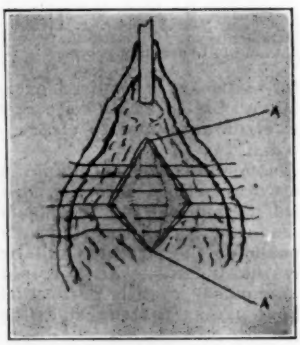


Bougie for introduction into bladder.

posterior wall of the vagina fully depressed, so as to expose the anterior wall fully to view. The bladder is distended with 12 ounces of boric solution. A straight steel bougie, No. 14, with a knob of the size and shape of a horse-bean half an inch from its point (Fig. 1), is introduced into the bladder, at first fully and then partly withdrawn, so that the knob comes down to and locates the neck, and by elevating the handle of the bougie the knob is made to throw out the posterior wall of the bladder immediately above the sphincter, and so project it backwards and downwards. Three sutures, one anterior and two lateral, are now passed through the lips of the os, and the uterus is dragged downwards so as to give a clear view of the anterior wall of the vagina.

A median vertical incision is now made from the uppermost point of the knob of the bougie downwards over the knob and along the middle of the stem for a distance of one and a half to two inches. With blunt-pointed scissors cutting on the flat the mucous membrane and muscular coat of the vagina are carefully separated on both sides of the median incision. The dissection should be made right down to the submucous tissue of the bladder and urethra, but great care must be taken not to expose the vesical mucous membrane itself. The vaginal mucous membrane is removed over a lozenge-shaped area (Fig. 2, A A′), the centre of which corresponds with the position of the most prominent

FIG. 2.



To show method of passing sutures.

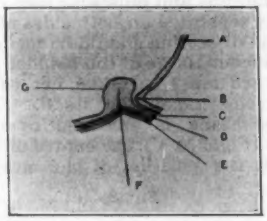
part of the knob of the bougie; the upper angle is just over the point of the instrument. The lower angle corresponds with the stem, while the two other angles point outwards, one on either side. Incisions are now made to join the apices, and a lozenge-shaped portion of vaginal mucous membrane is removed, exposing a corresponding area of raw surface, the floor of which covers the neck of the bladder and the first half inch of the urethra.

The vesico-vaginal septum having had the vaginal stratum removed over the area mentioned, the next step of the operation consists in building up a dam to prevent the too easy escape of urine. The successful construction of this mechanical obstruction depends upon heaping up a bank of mucous membrane on the vesical side of the septum and supporting it by tightening the structures behind—those on the vaginal side. (Fig. 3.) Make the first redundant, the second scant. The raw surface exposed is about one and a half inches in length from above downwards, and from side to side three-quarters of an inch. The broadest part of the lozenge is over the neck of the bladder.

The next stage of the operation is the suturing. The bougie is still in position. The sutures are chromic catgut and are introduced as follows. (Fig. 2.) A deep row is planted as shown in the illustration. On the left lip of the wound the needle is passed from left to right; it enters immediately under the vaginal mucous membrane to

come out one-eighth of an inch to the left side of the centre line of the bougie; it is then carried over the rawed surface to one-eighth of an inch beyond the right side of the bougie, where it penetrates the tissue, to be brought out on the right lip of the wound. Six sutures are passed in this way as shown in Fig. 2. The bougie is now withdrawn, and the sutures are tied, cut, and buried. A second row of fine gut sutures is applied to unite the margins of the wound in the vaginal mucous membrane, and the operation is completed. No

FIG. 3.



A, Bladder wall. B, Neck of bladder. C, Urethra. D, Posterior wall of urethra. E, Vaginal wall. F, Cut surfaces sutured. G, Mound of mucous membrane.

special after treatment is required, except that it is well to retain a small-sized rubber catheter for the first six or eight days, and to cleanse gently the parts twice daily.

The most common causes of simple incontinence of urine in women—that is to say, loss of control unassociated with disease of the bladder or the urethra—are injury received during parturition and over-distension of the urethra and neck of the bladder by instruments. As a result of these injuries a secondary cystitis or urethritis may be set up which aggravates the suffering considerably. There are other cases where no history of traumatism can be discovered. The former are more amenable to surgical treatment than the latter, but even these may be much improved by the operation suggested above.

Glasgow.

MULTIPLE ROUND-CELLED SARCOMA ORIGINATING IN THE NARES.

BY C. N. SLANEY, M.R.C.S. ENG., L.R.C.P. LOND.,
DEPUTY MEDICAL OFFICER H.M. PRISON, PARKHURST.

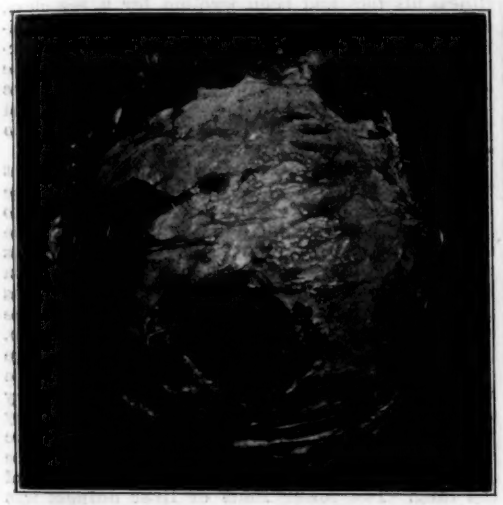
A MAN, aged 43 years, was brought under notice in February, 1912, complaining of being unable to breathe properly through the nose on account of it being stopped up more or less in both nostrils. This condition gave rise to continual sore-throat, cough, and general discomfort, in consequence of the patient having to go about with his mouth open. He stated that he had been told by a medical man whom he had consulted in the matter that he suffered from a polypus in the nose, and also that he had received treatment for this condition during the year 1909, when the growth was removed, and that it had again recurred. He was a heavy, thick-set man, 5 ft. 7 in. in height, and weighing 168 lb.; of pale complexion, but apparently in robust health; a woolcomber by trade. He expressed the wish that the polypus should again be removed in order to relieve him from his discomfort. A history of syphilis and gonorrhœa was elicited; but apart from these two diseases, which had apparently never worried him very much, he had enjoyed excellent health.

On examination there was found a fleshy, movable, pedunculated growth about the size of a large walnut, reddish-purple in colour, occupying the nasopharynx and extending, as far as could be ascertained, from the upper part of the posterior nares downwards behind the soft palate. It was situated more to the right side than the left, and could be pushed by the finger upwards and forwards towards the right nostril, being moulded to adapt itself to its surroundings, and ending in a blunt point at its posterior free end. Viewed through the right nostril, which it tended to obliterate, it presented a soft, œdematous, glistening appearance. There were in addition one or two small nasal polypi of the ordinary pale gelatinous type present in both nostrils, and a thin, clear, inoffensive watery discharge, very slight in amount, was noted. On account of the general œdematous condition of the mucosa covering the surrounding tissues the exact origin of the fleshy mass, although it appeared to occupy the right side of the nose for the most part, could not be accurately determined. In response to his request that something should be done to give him relief as much of the growth as could be seen and felt was removed by the wire snare under local anæsthesia. The tumour was very friable and not easy to manipulate; comparatively little hæmorrhage occurred during the operation. As a result of this he was again able to breathe through the nose, the throat and chest troubles vanished, and he could sleep in comfort.

The patient again presented himself in January, 1913, having apparently enjoyed good health in the interval, complaining of pains in both knees and in the left shoulder, which he attributed to rheumatism. There was œdema of both feet, and the right side of the nose was found to be obstructed by new growth. The urine was acid in reaction, clear, and normal in colour, with a specific gravity of 1014, and it contained a minute trace of albumin. Under general treatment he improved in health and was able to get about. There was little or no alteration in his general appearance to be made out, but towards the end of March of the same year a soft fluctuating swelling, gradually increasing in size, made its appearance under the scalp in the middle line over the upper part of the frontal bone. This was quite painless and so insidious in character that for a considerable time he appeared unconscious of its presence. A few weeks later there followed another swelling, similar in character to that over the frontal bone, in the neighbourhood of the inner canthus of the right eye. Albumin in the urine, at first very slight in amount, gradually increased in quantity, the addition of a few drops of hydrochloric acid causing a white precipitate. Although he was ordered to bed, it was found expedient, as he was heavy and difficult to nurse, to humour him as much as possible, and he was allowed to get up at such times throughout the day as he deemed compulsory. On August 1st, 1913, he suddenly fell down whilst standing by the side of the bed. In all probability this fall was occasioned by the breaking of one or more of the long bones of the leg; but whether this was so or not it was found on examination that he had sustained a fracture of the right femur apparently just above the condyles, and also of the left tibia and fibula through the

lower third; of the right radius and ulna at about the middle of the shafts, and another fracture in the region of the left elbow joint. The condition of the bones at the site of injury was consistent with the presence of new growth within them. The accident did not give rise to any shock. Under suitable treatment the fractured bones tended to heal satisfactorily as far as the position of the limbs was concerned, but the union was not very firm. Other tumours, similar in character to the one which made its appearance in the frontal region, gradually appeared under the scalp, in the proximal phalanges of the fingers, and on the right instep, that at the inner margin of the right orbit, as it increased in size, causing downward and outward displacement of the eyeball, giving rise to diplopia. As time went on, towards the end of the year, he complained of severe headaches, and attacks of nose-bleeding were not uncommon. It was estimated by the nurse that on one occasion he lost 16 oz. of blood from the nose during the night. The temperature at all

FIG. 1.

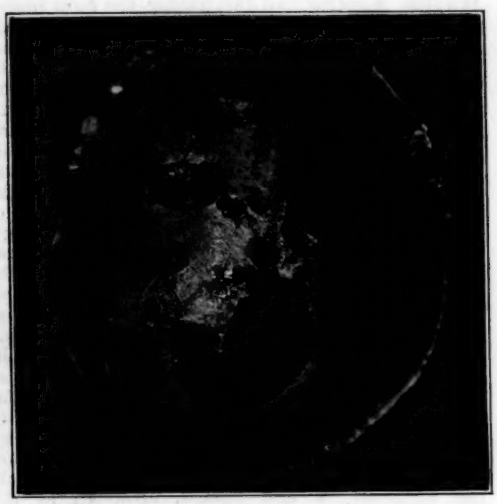


Exterior view of vault of skull.

times was irregular, running between 96·8° F. in the morning and 101° in the evening. His appetite remained good, and if anything he increased in weight. All tumours were slowly increasing in size, and he was quite unable to breathe through the nose, as a result of which symptoms of bronchitis made their appearance. On Jan. 22nd, 1914, in spite of the cheery optimism which never deserted him, it became obvious to those in attendance that dissolution was imminent, dyspnœa was very marked, and only with great difficulty was he able to draw air into the lungs, the act of inspiration being accompanied by a low, wheezy, hollow sound. The temperature rose to 104°, with slight morning remissions, the pulse-rate was 152, and four days later he succumbed in the early hours of the morning, conscious almost to the end.

The report of the post-mortem examination describes the body as being that of a fat and well-developed man. Rigor mortis was still present. Many tumours of various sizes were visible to the eye—namely, under the scalp, one a short distance in front of the bregma, 4½ inches in diameter at its base; another in the right temporal region 1⅝ inches in diameter; and another at the top of the vertex in the middle line 2¾ inches in diameter; two projecting from the inner wall of the right orbit and displacing the eyeball; another in the right nasal fossa; on the right forearm and proximal phalanges of the right index and ring fingers; over the metacarpal bone of the left index finger and proximal phalanx of the middle finger; on the right ankle below and in front of the external malleolus; and on the left ankle above and in front of the external malleolus. There were signs of old fractures in the region of the left elbow, bones of the right forearm, the right femur, and the left tibia and fibula. A large fungating growth originating in the mucoperiosteum at the base of the skull was found occupying the nasopharynx and the upper part of the buccal portion of the pharynx, extending forwards into the nasal fossa more particularly on the right side, eroding the right lacrymal bone, the nasal process

FIG. 2.



Interior view.

of the superior maxilla, and invading the inner margin of the orbit displacing the eye downwards and outwards. The growth was reddish purple in colour, soft and mucoid in consistency, and generally ill-defined where adherent to the bone. On opening the thorax the pericardium was found to be loaded with fat and to contain about half an ounce of clear straw-coloured fluid, the heart was enlarged, the muscle valves and orifices appeared healthy, but there were signs of commencing atheromatous degeneration in the aorta. Pleuritic adhesions were present binding the lungs to the chest wall and to the diaphragm, and there was evidence of bronchitis and emphysema. When opening up the trachea it was found that its lumen was partially occluded by a soft swelling invading the anterior two-thirds of the tube, more marked on either side than in front, lying beneath the mucous membrane and extending from the lower margin of the cricoid cartilage downwards to the level of the membrane between the first and second rings of the trachea; the swelling was seen to be

pale in colour, soft in consistency, and to resemble in its general characteristics the new growths already observed. Externally the larynx and trachea appeared healthy.

The abdominal viscera, with the exception of the kidneys which were enlarged and congested, were to macroscopical examination apparently healthy; the mesentery was loaded with fat. On removing the scalp the outer table of the skull was found to be eroded by new growths. (Fig. 1.) The latter were of a dark maroon colour and jelly-like in consistency; they ranged from the size of a pea to at least three inches in diameter, the skull being literally riddled; there were 16 erosions of the outer table visible, all these being of fair size. The growths had apparently originated in the cancellous tissue of the bones and extended laterally between the external and internal tables of the skull, tending to thin them, and in some cases going through the bone. Dependent on the stage and direction of the growth, the tumours could be divided into three varieties—namely: (1) those growing between the two layers of the skull; (2) those eroding the outer table and invading the scalp; and (3) those growing inwards invading and infiltrating the dura mater, though not penetrating it nor affecting the brain tissue; these latter were situated for the most part in the middle line and tended to obstruct the lumen of the superior sagittal (longitudinal) sinus. (Fig. 2.) The brain and spinal cord exhibited no departures from the normal. The cavities of the long bones in the neighbourhood of the fractures were found to be occupied by growth similar to that found in the skull bones, the compact tissue being in places very thin or entirely absent, the surrounding tissues forming a capsule for the tumours. In the case of the femur there was a tendency to so-called expansion of the bone. The shafts of the affected phalanges, excepting for a few fine spicules of bone scattered over the surface of the growth, had disappeared, leaving only the articular ends of the bones. It will be seen that the metastases, with the exception of that found in the trachea, occurred, as far as could be ascertained, only in connexion with bony tissue. Microscopical examination, made some months previous to the appearance of secondary growths, of portions of the tumour removed from the nasopharynx and nostril, although at the time not absolutely conclusive, gave rise to grave suspicions as to malignancy.

Mr. L. Stanley Dudgeon, of St. Thomas's Hospital, who very kindly undertook the microscopical examination of the tumours, reported that the growth exhibited all the characteristics of a round-celled sarcoma.

Parkhurst.

Dr. Robert P. Dawson, J.P., who is a councillor of the borough of Newcastle-on-Tyne, has been selected as the new sheriff for the ensuing year.

DONATIONS AND BEQUESTS.—The late Mr. John Murray, of Dublin, has bequeathed nearly the whole of his personal estate, valued at £19,000, to the hospitals of Dublin in equal shares.—By the will of the late Mrs. Eliza Dixon, of Clifton Down, Bristol, the Middlesex Hospital will receive £1050 for a cancer bed in the new ward, to be called the "Thomas Dixon" bed, and £1050 for a cancer bed, to be called the "Eliza Dixon" bed.—The late Rev. William Ridge Greenhill has left £200 and one-third of his residuary estate to the National Hospital for the Paralysed and Epileptic, Queen-square, of which he was chaplain.—King Edward's Hospital Fund for London will receive £500 under the will of the late Mr. James B. Sharp, of Reigate.

A CASE OF MEDIASTINAL PLEURAL EFFUSION.

BY ALEXANDER ROSE, M.D. ABERD.

EXTENSIVE pleural effusion limited to the mediastinum is a rare disease. So far as I am aware the only text-book that gives a detailed description of mediastinal pleurisy is that of Dieulafoy. The following case shows very little resemblance to those recorded by him and is possibly unique.

The patient, who died suddenly five days after I saw him for the first time, was a thin, sallow-complexioned man, 52 years of age. He gave a history of gradually increasing weakness, wasting, and dyspnœa of at least 12 months' duration. He had never been a robust man, having been for many years subject to slight attacks of bronchitis, but during the past 29 years, which were spent in one situation, his longest absence from work on account of illness amounted to only three days. One of his children was said to have died in infancy from "consumption." About six weeks before his last illness his feet had been swollen for a few days, especially in the evenings. He complained principally of dyspnœa. There was no cough or expectoration. He preferred to lie on his back with the head raised, as the breathing became troublesome if he lay on either side. The pulse was 84 and feeble; respirations short, and varying from 24 to 30 per minute; temperature normal.

On examination of the chest it was found that the measurements of the two sides were equal. The right side was dull to percussion from the base to the third rib anteriorly, and from the base to the spine of the scapula posteriorly. The dulness was most marked at the base, gradually diminishing in intensity from below upwards. The apex was resonant in comparison with the rest of the same side, but dull when compared with the left side. The outline of the dulness was unaltered by change of position. Respiratory sounds were absent at the base of the lung. At the angle of the scapula they were heard faintly, and from there upwards they increased in intensity till at the apex they were loud and bronchial in character. Vocal resonance and fremitus were absent over the lower half of the lung. The lower limit of liver dulness was two inches below the ribs in the right nipple line. The veins over the right side of the chest were slightly dilated. The whole of the left side of the chest was hyperresonant on percussion. In the upper part the resonant area reached to the right border of the sternum. The superficial cardiac dulness was absent, and the apex beat of the heart could not be felt. On auscultation the point of maximum loudness of the heart sounds was in the normal position of the apex. There were no enlarged glands and the urine contained neither sugar nor albumin.

A provisional diagnosis of tumour of the lung with pleuritic effusion was made, and an exploratory needling was recommended. The patient absolutely refused to allow this to be done, and so terrified was he at the very idea that his wife considered his death to be due to fright.

On post-mortem examination it was found that the right lung was adherent to the chest wall all round. In a cavity bounded by the diaphragm below, the mediastinal pleura internally, and the compressed lung in other directions, were 80 oz. of serous fluid which coagulated spontaneously.

The pleura covering the diaphragm and that covering what had evidently been the diaphragmatic surface of the lung were each nearly half an inch thick owing to the deposition of layers of fibrinous lymph. In the apex of the right lung there was a caseous mass of about the size of a walnut, while scattered through the lung were numerous miliary tubercles. The left lung was emphysematous and also contained miliary tubercles. The heart was very slightly, if at all, displaced.

In the article alluded to above Dieulafoy gives a description of five cases observed by himself or others. In all of these the fluid was purulent. Three were pneumonic in origin, and in two of these the abscess opened into a bronchus, one patient coughing up 3 oz. and the other 6 oz. of pus. In one tuberculous case a cavity of the size of an orange was found. It communicated with the right bronchus, and its boundaries were the vertebral column, ribs, and root of right lung. In the fifth case an encysted empyema in front of the hilum of the lung contained 10 oz. of pus. The patient was supposed to be suffering from chronic phthisis, but no tuberculous lesion was found. He also quotes Laennec as having seen circumscribed cases of pleural effusion between the inner surface of the lung and the mediastinum, the effusion being only "one or two spoonfuls" in amount.

According to Dieulafoy mediastinal pleurisy begins like an acute febrile attack with pain, fever, cough, and dyspnœa. This mode of onset along with the absence of glandular enlargement helps to distinguish it from mediastinal tumour. If the encysted fluid travels towards the lung and affects the mediastinum only to a slight extent the signs are uncertain and the diagnosis remains indefinite. If it travels towards and exerts pressure on the mediastinal contents the collection of symptoms known as the "mediastinal syndrome" is found. These symptoms are dyspnœa, stridor, and sucking in of the chest wall, dysphagia, distension of the veins of the chest, fits of coughing and suffocation, and hoarseness, dysphonia, and spasm of the glottis. They are caused by pressure on the trachea, œsophagus, azygos vein, and the pneumogastric and recurrent laryngeal nerves, and all or only some may be present. As a rule the heart is little affected.

The principal points of interest in the above case are the position and large amount of the effusion, the slight inconvenience caused to the patient during the many months it must have taken to accumulate, and the almost complete absence of pressure symptoms. The post-mortem findings suggest that the effusion was originally an encysted diaphragmatic one, and that its extension to the mediastinum occurred comparatively late. The lung, being tuberculous and fixed, would offer less resistance to the pressure of the fluid than the mediastinal contents and the comparatively healthy left lung offered.

It is difficult to see how the patient could have been benefited in any way by surgical intervention. If aspiration had been attempted it is doubtful whether the needle would have reached the fluid owing to the thickness of the intervening lung. If one had succeeded in drawing off any considerable quantity of the fluid, most probably another case would have been added to the list of sudden deaths which have occurred during the operation of paracentesis of the chest.

South Norwood, S.E.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTES ON FOUR CASES OF SPLENECTOMY FOLLOWING RUPTURE.

BY ROBERT COX, M.B., B.CH. R.U.I.,
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IN the June number of the *Indian Medical Gazette* appears a report of splenectomy following rupture, in which the writer lays stress on three points: 1. "The long period (34 hours) between the injury and the operation, an extraordinary length of time for a ruptured spleen to exist without a fatal result," and he explains it by the fact that the hæmorrhage was controlled by two injections of morphia gr. ¼ administered at intervals before operation. 2. Sepsis due to infection of silk owing to hurry. 3. The persistence of malaria in the blood after removal of the spleen. I venture to send you some notes on four similar cases.

CASE 1.—At 2 P.M. on May 7th, 1914, in Ipoh Hospital I examined a Pathan who had been run over by his own bullock cart at 2 A.M. on the previous day (interval 36 hours); the wheels of the cart, which was loaded, had passed over his back and left arm, fracturing his humerus. He complained of pain in the abdomen, which was tender and slightly rigid, the respirations were rapid, and the pulse-rate 144. On opening the abdomen through the left rectus I found the peritoneal cavity full of blood and the spleen torn in its long axis practically into halves, which were held together only by a small portion of capsule. A second incision was made outwards at right angles to, and at the upper end of, the first incision, and the spleen, which was three times the size of the normal, removed, after which the cavity was irrigated with saline and the abdominal wall sewn up with through-and-through silkworm gut sutures. Salines were given intracellularly during the operation and hypodermic injections of liq. strych. ♏v. and adrenalin ♏xx. Immediately after operation morphia gr. ¼ was injected, a further gr. ¼ being given at 8 P.M., and repeated at 8 A.M. the next morning. On the night of operation I was unable to count his pulse, but the next morning it was 134 and in the evening 120; on the third day the pulse was 90 and on the fourth day 78. A differential blood count two months after operation showed: polymorphonuclears, 29·5 per cent.; small mononuclears, 32·5 per cent.; large mononuclears, 17 per cent.; eosinophiles, 14 per cent.; mast cells, 3 per cent.; and transitionals, 4 per cent. At this time the abdominal wall appeared perfectly sound with no tendency to hernia.

The points I would draw attention to are: (1) The long interval between the accident and the operation (36 hours), no morphia having been used; (2) the absence of sepsis; I consider the time spent on sterilisation was fully justified, all stitches being removed on the tenth day; and (3) the presence of malaria after operation. I fail to see why removal of the spleen should affect the persistency of malaria.

CASE 2.—On April 21st, 1912, at 9.30 P.M., a Chinaman, who had been injured in a mining accident 13 hours previously, was admitted to Kampar Hospital complaining of great pain in the abdomen. His pulse was 120, the abdomen was tender but not rigid, and he was unable to lie down. I performed a supra-umbilical laparotomy through the left rectus and removed a ruptured spleen weighing 2 lb.; after operation the patient was treated with intracellular salines with adrenalin and injections of strychnine. He died eight hours after operation.

CASE 3.—On July 2nd, 1912, at 2 P.M., I examined a Chinaman in Kampar Hospital who said he had been

assaulted eight hours previously; he complained of great pain in the abdomen, which was tender and rigid. The pulse-rate was 140 and barely perceptible. He was unable to lie down. I did a supra-umbilical laparotomy through the left rectus; the peritoneal cavity was full of blood, and I removed the spleen, the visceral surface of which was ruptured; salines were given into the cellular tissues during and after operation. At 5 P.M. morphia, gr. ¼, was injected hypodermically, and at 10 P.M. another gr. ¼. The morning after operation the pulse-rate was 140, and the respirations were very rapid and shallow; he got very much worse after drinking some brandy and his condition was considered hopeless. At 10 P.M. the same day both his respirations and his pulse were slightly improved. On the third day pneumonia of the left base set in and for a fortnight his condition was critical, but after that he made a rapid recovery. A differential blood count six weeks after operation gave: polymorphonuclears, 30 per cent.; small mononuclears, 63 per cent.; large mononuclears, 5 per cent.; and eosinophiles, 2 per cent. I saw him last on Oct. 1st, 1912, in the Supreme Court. At that time there was some weakness of the abdominal wall. He said he felt quite well, but was very much distressed that his assailant only got six months' rigorous imprisonment.

CASE 4.—On May 24th, 1914, at 10 A.M., a Chinaman was brought to Ipoh Hospital by the police. He had been beaten over the abdomen four hours previously. His pulse was 110, of fair volume and tension, there was dulness in the left flank, and the abdominal wall was rigid. I performed a laparotomy and removed a badly torn spleen, four times the size of the normal. The man died 20 hours after operation.

Ipoh, Federated Malay States.

BEE-STINGS AND ANAPHYLAXIS.

BY A. T. WATERHOUSE, M.D. OXON.

AN instance of severe symptoms following the sting of a bee seems to be worth recording, since it appears to throw some light on the nature of such cases.

The patient, who lives in the country, is a healthy-looking man aged 53. He had typhoid fever very badly some 35 years ago. He is subject to attacks of faintness, especially when purged by a strong aperient. Otherwise he enjoys good health. He has kept bees for some years, and while attending to the hives has frequently been stung without sustaining any apparent injury beyond the local inflammation which is usual in such cases. Last June, while taking a swarm, he was stung by five or six bees at once, and seemed none the worse for his experience.

On August 6th the patient was stung on the hand by two bees. Almost immediately he began to feel a constriction of the throat, as if the glands under the jaw were enlarging, with intense throbbing of the head. His friends noticed that the face was flushed, the eyes congested, and the upper lip swollen. This was accompanied by numbness and tingling of both hands, and there was difficulty of breathing. He went to see Mr. R. N. Farrer, of Clayton West, who has kindly sent me some notes of the case from which this account is compiled. About half an hour after he was stung the patient lost consciousness, his breathing became stertorous, and his pulse feeble; in fact, for a few seconds he was pulseless. He recovered consciousness in from three to four minutes, but had another milder attack about ten minutes later. In 12 hours' time he was convalescent.

On Sept. 2nd while walking in the garden of St. John's College, Oxford, he was stung by a bee on the upper margin of the right ear. Remembering his former experience he left the college, and by the time he had reached the street he began to feel a constriction of the throat and difficulty in breathing. He walked across the road to the nearest chemist's shop and collapsed on the floor. When I saw him, about ten minutes later, he was semi-conscious and restless, with sighing respirations. The right side of the face was congested and slightly swollen. He was sweating, and the extremities were pale, cold, and clammy. The pulse could not be felt at the wrist and the heart sounds were very feeble. The sting had been extracted and ammonia had been applied to the ear before my arrival. He was given some sal volatile and compound tincture of cardamoms, and 5 minims of liquor strychninæ were injected under the skin of the arm. He gradually recovered full consciousness, and in about three-quarters of an hour from the time when I first saw him he was removed to his lodgings. His pulse could now be felt. His condition improved steadily, and on the following day his heart was acting normally. He had no diarrhœa and did not vomit. He was very listless for a few days, but made a good recovery.

At first sight there is nothing especially remarkable about these two occurrences, so far as the symptoms are concerned. Many other cases have been recorded of similar severe effects, and even death, following the stings of bees and wasps, but on further consideration one is struck by the resemblance between these serious effects and the typical symptoms of anaphylactic shock in animals. The suddenness of onset suggests a change which cannot be accounted for by the mere absorption of a minute quantity of irritant poison in a normal individual. The depressed heart's action, the sudden urticaria and vaso-motor phenomena, and the embarrassment of inspiration are all strongly suggestive of anaphylaxis, and when these alarming symptoms are produced in a man, who on former occasions has suffered no ill-effects from bee-stings, the extraordinary increase in his sensitiveness requires some explanation, and this is afforded by the supposition that he had been previously sensitised by the former stings, which at the time appeared to be innocuous.

Oxford.

LITERARY INTELLIGENCE.—The Encyclopædia Britannica Co., Limited, have decided to issue in a cheap and convenient form six volumes of selected articles from the Encyclopædia dealing with the population, Government, finance, industries, military and naval organisation, and other important material bearing on the war with regard to France, Germany, Austria-Hungary and Poland, Russia and the Balkans, Belgium, Switzerland, and Italy, and the wars of the nineteenth century. Among the writers may be mentioned Professor Wiriath and Mr. J. E. C. Bodley, Sir Donald M. Wallace and Prince Kropotkin, Professor W. A. Phillips and Mr. Wickham Steed, Mr. J. D. Bourchier and Mr. Mijatovich, Major-General Robinson, and Colonel Maude. Each volume separately will cost 2*s.* 6*d.* net, or 12*s.* 6*d.* net. the set of six.—Among the Cambridge University Press announcements of forthcoming works we notice, as having a collateral interest for medical men, "The Electron Theory of Matter," by Dr. O. W. Richardson, Professor of Physics at King's College, London; "The Propagation of Disturbances in Dispersive Media," by T. H. Havelock, M.A., F.R.S.; "The House-fly—Musca Domestica Linn.: its Structure, Habits, Development, Relation to Disease, and Control," by C. Gordon Hewitt, D.Sc.; "The Chemical Examination of Water, Sewage, Foods, and other Substances" (Cambridge Public Health Series), by J. E. Purvis, M.A., and T. R. Hodgson, M.A.; "Water Reptiles of the Past and Present" and "The Osteology of Some American Permian Vertebrates," by Samuel W. Williston; "The Origin of the Earth," by Thomas C. Chamberlin; "Isolation and Measurement of the Electron," by Robert A. Millikan; and "The Evolution of Sex in Plants," by J. M. Coulter.

Reviews and Notices of Books.

Auricular Flutter.

By WILLIAM THOMAS RITCHIE, M.D. Edin., F.R.C.P. Edin., F.R.S. Edin., Physician to the Deaconess Hospital; Assistant Physician to the Royal Infirmary; Lecturer on the Practice of Medicine, School of Medicine of the Royal Colleges; Lecturer on Clinical Medicine in the University of Edinburgh. London and Edinburgh: W. Green and Son. 1914. Pp. 144. Price 10*s.* 6*d.*

THE introduction of the electrocardiograph has afforded much valuable information regarding the nature and the causes of heart failure. This grave and often fatal event is recognised as being not infrequently a result of diseases of the auricles. The term auricular fibrillation is now extensively employed, and the conditions underlying its production are becoming more precisely understood; and the disorder which is designated "auricular flutter" has been more recently investigated.

The volume before us is mainly devoted to a study of this subject. In order that the nature and significance of the disorders of the auricles may be appreciated, some account is first given of certain facts concerning the anatomy and physiology of the heart and the pulsations of the jugular veins. The disturbances of the cardiac action that are due to extrasystoles and auricular fibrillation and their relation to allied disorders are also discussed. Auricular flutter is defined as a pathological action of the auricles characterised by rhythmic coördinate contractions of their musculature at a rate that is greatly accelerated and is usually between 250 and 300 per minute. A brief account is given of the present knowledge of the etiology of the condition, and then the morbid anatomy is discussed, the conclusion being arrived at that the number of post-mortem examinations is as yet too small to permit of any final conclusions regarding the condition of the heart in auricular flutter. But Dr. Ritchie is of opinion that the available evidence demonstrates that flutter may be associated with widespread acute or subacute inflammation and degenerative changes in the auricular musculature, and that these changes may involve both nodes and the bundle; also that these changes may arise in the course of an acute infective disease, but that more frequently they are due to disease of the coronary vessels or to inflammation extending into the muscle from the pericardium or from the mitral and tricuspid valves.

A chapter of 46 pages is occupied by records of 53 cases, 11 of which came under Dr. Ritchie's own observation. The electrocardiograms are of interest, and if the cases quoted from other observers form rather tedious reading they are none the less valuable as corroborative evidence. The clinical features of auricular flutter are thoroughly well described, and it is pointed out that the symptoms especially associated with this condition are not direct manifestations of the extreme acceleration of the auricles, but are due to ventricular acceleration and to secondary alterations in the arterial and venous pressures. Dr. Ritchie also maintains, being here in accordance with other observers, that the majority of cases of auricular flutter supervene during the course of chronic heart disease. The remarks on diagnosis and treatment are well worthy of attention.

We have perused this volume with much interest. It shows evidence of close observation and patient investigation. As the knowledge obtained by the electrocardiograph increases, the value of this instrument in clinical medicine will become practically established.

Geschwulstlehre für Aerzte und Studierende.

By H. RIBBERT, Professor of General Pathology at Bonn University. Second edition. With 612 illustrations, many of them in colour. Bonn: F. Cohen. 1914. Pp. viii. + 710. Price 24 marks.

THE publication of the second edition of Professor Ribbert's book on tumours is something of an event in the world of pathology and medicine. Its author is well known as one of the most eminent pathologists living, and the subject of tumours is one that he has made peculiarly his own. The first edition of the book came out ten years ago, so that, owing to the great progress that has been made in the study of the subject during the last decade, Professor Ribbert has found it necessary to rewrite almost the whole of the volume and to add over 170 of the admirable semi-diagrammatic illustrations that form so valuable a feature of the work. In addition, the whole subject of carcinoma has been cut out of the second edition; the reader who wishes to study cancer is referred to the author's large work on "Cancer in Man," published two years ago, to which the book at present under consideration forms a companion volume.

The work is divided into two main sections, a general part and a special part, as was the first edition. The former portion, covering 113 pages, gives a general account of tumour formation in its various aspects. Histogenesis, growth, malignancy, the tendency to recurrence and to metastasis, multiplicity, the influence of trauma, and many similar points are considered in detail. Particular attention is given to the theory of germinal exclusions, or embryonic rests, as the starting-points for new growths, with illustrative diagrams and accounts of cases. As is well known, Professor Ribbert is strongly of the opinion that tumours are often, or even habitually, due to the autonomous growth of minute cellular exclusions, or rests, fragments of tissue that have been cut off from their own particular physiological commonwealth of cells. The second section of the volume contains a special description of each of the various forms of new growth, excepting carcinoma, which is only briefly mentioned. As in the first edition, the author treats the terms "endothelioma" and "perithelioma" with great severity. He almost denies that endotheliomas exist, defining endothelium as the flattened cells of connective tissue origin that line the blood- and lymph-vessels and the lymph spaces; the so-called endotheliomas are generally epithelial tumours, adenomas or carcinomas. Peritheliomas are, or should be, he says, tumours derived from the perithelium described by Eberth as lining the perivascular lymph spaces; he concludes that the tumours now called peritheliomas should be named perivascular sarcomas. He supports his arguments on these points by numerous references to the literature of these much-discussed forms of new growth.

We need not attempt to mention the innumerable matters of interest discussed in a volume with such a title when written with real knowledge and authority. Suffice it to say that tumours of all kinds are described clearly and briefly, and that the illustrations do all that illustrations can do towards giving a simplified and lucid summary of the matters described in the text. There is an adequate

index, and the volume, excellently got up and printed, is a valuable addition to the literature dealing with new growths.

It should be found in every medical library and in every pathological laboratory.

Researches into Induced Cell-reproduction in Amœba.

By JOHN WESTRAY CROPPER, M.B., M.Sc. Liverp., M.R.C.S. Eng., L.R.C.P. Lond. The John Howard McFadden Researches. Vol. IV. With illustrations. London: John Murray. 1914. Pp. 112. Price 5*s.* net.

PROCEEDING on the assumption, or what is termed "a working hypothesis," expounded in the previous volumes of this series, these researches consider "normal cell-reproduction and benign tumours as caused by certain chemical agents, called auxetics, such as tyrosin, creatin, &c.; and that cancerous tumours are caused by a mixture of auxetics with another group of substances called kinetics or augmentors, such as choline and cadaverine. Auxetics are produced in the body by cell-death as the result of injury; kinetics are decomposition products produced by the action of bacteria and other organisms." This volume does not touch on the immediate cancer problem. It deals with amœbæ and the way in which auxetics and kinetics excite reproduction in these cells.

The book is divided into four parts. In Part I. the characters of the amœba under natural and artificial conditions are considered, special methods of examination are shown, and the action of auxetics and kinetics described. The amœba employed was found growing in a sodium citrate and sodium chloride solution that had been left lying exposed to the air in the laboratory for some months. The author calls it provisionally Amœba ostrea. Chiffon was moistened and placed flat on a piece of glass. On this the amœba or amœba cysts were dropped and examined microscopically. Other methods used and the means to keep the amœba under favourable conditions of flow and concentration of fluid are described. Moist air chamber methods—examination on a jelly surface—were also used, as well as the jelly method for *in vitro* staining, and for observing the stages of nuclear division. The methods of reproduction and the process of conjugation were watched. It appears that asparagin, creatine, and tyrosin are auxetics, while choline is a kinetic. Tyrosin is said to produce multinuclear forms, while so-called "radiose" types were produced by the action of auxetics and kinetics. Part II. deals with the causes of encystment and excystation. The phenomena of "encystment" are already well known to biologists. The author contends that the "amœba is actually compelled to protect itself by the action of soluble substances in the environment, which are of the nature of poisons, and which are produced under natural conditions by those bacteria that are invariably associated with the growth of amœba." It appears that those amœbæ usually encyst first which are surrounded by a dense mass of bacteria. The bacterial products against which an amœba has to protect itself are choline and cadaverine. "Excystation" takes place in the presence either of the dead bodies of bacteria or of certain soluble products—probably of the nature of ferments—of the growth of living bacteria. These products are destroyed by boiling, but not by chloroform. Their action is increased by the presence of choline. Pepsin and normal horse serums will cause excystation. Part III. deals with the preparation of "pure mixed cultures"—i.e., the cultivation together of a single species of amœba with a pure strain of bacterium. "Cultures of amœba with a limited variety of bacteria were obtained, and these, when subjected to the action of 2 per cent. HCl for 24 hours or thorough drying for six weeks, were found to be free from living bacteria, while the cysts were still alive." A tabular arrangement of the results is given. In Part IV. a parasite of amœba is described. We have given quotations to show the views of the authors—views, however, which require further investigation.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XLVIII., No. 4. July 14th, 1914. Cambridge University Press. Pp. 233-356. Price 7*s.* 6*d.*—The Formation of Urine in the Frog, by F. A. Bainbridge, J. A. Menzies, and S. H. Collins, is a continuation of a previous communication. In the authors' new experiments the view is taken that the urine is derived entirely from the glomeruli, and that as it passes down the tubules sodium chloride is absorbed, and the urine collected from the ureters is therefore hypotonic to the perfusing fluid. The amount of urine formed, however, is usually very small.—The Absorption and Dissociation of Carbon-dioxide by Human Blood, by Johanne Christiansen, C. G. Douglas, and J. S. Haldane. From the authors' observations, recorded in this article, it would appear that the giving off of CO_2 by the lungs is to a large extent consequent on the taking up of oxygen. Various experiments and calculations enable the authors to state that during rest in the venous blood reaching the lungs there is an average venous CO_2 pressure of 44·2 mm., and a rate of flow of 7·7 litres per minute in a person with a total volume of 4·7 litres.—The Influence of Distension of the Lungs on Human Respiration, by Johanne Christiansen and J. S. Haldane. Although observations on this subject have been recorded in respect of dogs and rabbits, hitherto none seem to have been recorded on man. The authors conclude from their experiments, which they state, that true apnœa, apart from the inhibitory nervous effects produced during actual distension of the lungs or actual excitation along other nerve paths connected with the respiratory centre, is a "chemical" apnœa. So far as the authors are aware there is now left no experimental evidence to support the vagus theory.—The Heart-Lung and Kidney Preparation, by F. A. Bainbridge and C. L. Evans. The authors have used the "heart-lung preparation" of Knowlton and Starling to perfuse blood through the kidneys of dogs. The kidneys are very sensitive to the lack of oxygen and probably also to the absence of the intermittent driving force of the heart, so that perfusion of the isolated kidney has not yielded results which could justly be compared with those obtained in the living animal. Hence the authors used two dogs for each experiment, one for the "heart-lung preparation" and one for the kidney or kidneys, arterial blood being perfused, so that the arterial blood pressure, blood flow, and temperature were under control and the gaseous exchanges of the kidney investigated. The kidney thus isolated and perfused secretes urine. The gaseous metabolism of the isolated kidney is increased when the urine secretion is provoked by the aid of diuretics such as sodium sulphate. The respiratory quotient is similar to that of the heart. The gaseous metabolism of the kidney is not altered by changes in the rate of blood flow through the organ.—The Ferments of the Pancreas: Part IV., Steapsin, by John Mellanby and V. J. Wooley. The authors find that the stability of steapsin (1) in alkaline solution is similar to that of trypsin; (2) in acidic solution is related to the hydrogen ion concentration of the fluid in which it is contained. Steapsin cannot exist in the presence of free trypsin. The destruction of steapsin by trypsin is absolute. Therefore, when pancreatic juice is activated by enterokinase, as trypsin develops, steapsin disappears. This fact affords an explanation for the presence of trypsinogen rather than trypsin in fresh pancreatic juice. Serum or egg albumin added to activating pancreatic juice protects steapsin

from destruction owing to the presence of antitrypsin in them. The action of steapsin on fat is greatly augmented by bile and bile salts. Electrolytes, such as neutral salts, have no influence on the reaction. There is no evidence that steapsin in pancreatic juice can be separated into enzyme and coenzyme. The authors conclude (*a*) that steapsin consists essentially of protein; (*b*) that its destruction in alkaline solution is due not to auto-digestion but to its inherent instability; (*c*) that although the conditions in the small intestine which favour trypsin production are inimical to the continued existence of steapsin, yet the presence of protein in a dietary may facilitate fat digestion by virtue of the capacity of the protein to adsorb the first formed trypsin. —The Sensitiveness of the Respiratory Centre to CO_2 and the Dead Space during Hyperpnœa, by J. H. M. Campbell, C. Gordon Douglas, and F. G. Hobson. The respiratory centre is particularly sensitive to CO_2. It has been stated that a rise of about 0·3 per cent. in the alveolar CO_2 pressure is sufficient to cause the alveolar ventilation of the lungs to be increased by 100 per cent. above the resting value. The authors state that in all probability this observed value is really too high, and they set themselves to obtain some more precise quantitative relationship between the alveolar ventilation and the alveolar CO_2 pressure. The authors' experiments show that a rise of 2·5 mm. in the alveolar CO_2 pressure was sufficient to cause a rise of 10 litres in the alveolar ventilation, and a rise of 2·0 mm. in the alveolar CO_2 pressure was sufficient to cause a rise of 10 litres in the total ventilation of the lungs. During the hyperpnœa caused by air containing CO_2 the dead space is considerably increased.—The Cerebro-spinal Fluid: III., The General Effects of Increasing the Cerebro-spinal Pressure, by W. E. Dixon and W. D. Halliburton. In their previous paper[1] the authors dealt with the effects produced by moderate changes in the C.S. pressure on the arterial and venous pressures. This communication deals with the effects produced by greatly increased C.S. pressure. The experiments were made on dogs fully anæsthetised with urethane and morphine. A relatively small increase in C.S. pressure, artificially produced by a pump connected to the cranio-vertebral space, causes stimulation of the respiratory (least marked effect), vaso-motor, and cardio-inhibitory centres. When the pressure is increased to 300–400 mm. Hg, considerably above the normal arterial pressure, respiration ceases in a few seconds, but the other two centres remain active and the arterial pressure rises enormously in spite of the slow heart; a little later the cardio-inhibitory centre is paralysed, and the continued activity of the vaso-motor centre still further raises the arterial blood pressure—a protective mechanism which continues to force the blood along the compressed blood-vessels. If the high C.S. pressure is kept up paralysis of the vaso-motor centre ensues and the arterial blood pressure falls. On removal of the compression the centres recover in the reverse order, the vaso-motor centre first and the respiratory centre last. The spinal centres as tested by the occurrence of convulsions after an injection of strychnine recover their activity later still. The changes in venous pressure during cerebral compression vary in different animals, and are not always easy to interpret.—The Influence of a Vitamine-free Diet on the Carbohydrate Metabolism, by Casimir Funk and Count von Schönbrun. Pigeons kept on vitamine-free diet develop a tendency to hyperglycæmia with diminution of the glycogen of the liver. This hyperglycæmia is especially marked in the case of sugar-free diet, which is followed by an entire disappearance of liver glycogen. In three experiments made, the addition of vitamine from yeast to the latter diet produces a very marked formation of glycogen in the liver and a diminution of the sugar in the blood. Vitamine would seem to have a distinct influence on the glycogen metabolism. In the case of the fat-free diet the glycogen content of the liver is increased. —On Some Cardiac Reflexes, by F. A. Bainbridge. The experiments were made on anæsthetised dogs, the blood pressure and respiratory movements being recorded by the usual methods. The slowing effect on the heart of stimulation of the central end of one vagus by way of the other vagus is well known. In no case, however, does this central stimulation slow the heart by decreasing the accelerator tone. It would therefore appear that there is no reciprocal action between the vagus and accelerator centres. Acceleration of the heart is known to be produced in anæsthetised animals (with or without curare). This is mainly due, it appears, to decrease of vagus tone, but acceleration can also be caused by increase of accelerator tone, while some late increase is produced by the setting free of adrenalin. The effects on the circulation and respiration of stimulation of the sciatic nerve are very similar.—The Determination of Lactic Acid, by Charles G. L. Wolf. This paper will be specially interesting to the biochemists.—On the Constancy of the Systolic Output under Varying Conditions, by Joseph Markwalder and E. H. Starling. A continuation of papers already published from University College. From their new experiments the authors conclude that, taking the coronary circulation into reckoning and given a constant venous outflow, the output of the heart, within much wider limits than had been previously imagined, is independent of the arterial pressure, of temperature, and of heart rate.

[1] THE LANCET, July 25th, 1914, p. 237

ASYLUM REPORTS.

Scottish Western Asylums Research Institute (Annual Report for the Year ending October, 1913).—The work done during this year included an exhaustive examination of the cerebro-spinal fluid from a large series of mental cases, including chemical examination and immunisation experiments. Special work has also been done in the clinical examination of cases of adolescent insanity with a view to differentiating the various forms of this disease. A course of six lectures and demonstrations was given by the director, Dr. Ivy Mackenzie, at various asylums, and also a course of instruction in technical methods of blood and cerebro-spinal examinations to the medical officers of the associated asylums. Dr. Mackenzie proceeds to give a general review of the laboratory work during the last four years—i.e., since the opening of the institute. The results of investigations on the relation between syphilis and insanity go to show that the mental health of the community is affected by syphilis in at least five different ways: 1. General paralysis. 2. A form of mental affection that follows syphilitic disease of the brain vessels and coverings. 3. A form of mental affection in which the patient suffers from depression and excitement, although there is no direct evidence of the presence of either of the two foregoing diseases. 4. Idiocy and imbecility in congenital syphilis. 5. A condition of weak-mindedness in children and adults (not sufficient to be called imbecility) whose parents suffered from syphilis, although there may not be any bodily evidence of the disease in the patients themselves. In order to deal practically with this aspect of mental disease Dr. Mackenzie has made investigations as to the extent and significance of syphilis and the means of influencing its spread and curtailing its course. With regard to the latter the following conclusions are come to. It is a primary necessity that the public, and in particular young people, should be educated in these matters. Such education must not be confined to simple instruction in the biological facts of the disease; it must also include a comprehensive consideration of the social conditions which determine its dissemination and an appreciation of the problems of poverty and vice. Until the public is thus educated compulsory notification would be futile. There should be a general exposure of the conditions which lead to the spread of the disease and a drastic treatment of the housing question is to be recommended, not as a philanthropic project but as a business proposition, in the interests of the public health. With regard to prostitution, it is essential to realise that the position of women in the labour market is one of the many influences which help to recruit its ranks. Blaschko has pointed out that prostitution in large industrial centres varies inversely as employment in industry. A solution of the social economic problem would go a long way to palliate this social evil. The prevailing spirit of materialism is also a powerful factor in the spread of immorality. With regard to curative measures, Dr. Mackenzie considers that the medical student should receive a more systematic and thorough training in venereal disease; and that all hospitals should be open to venereal disease, without respect to its stage. Provision should be made for placing at the disposal of the profession generally the most adequate means of diagnosis and treatment. Steps should also be taken

to provide that patients who are encountered in the administrative medical work—i.e., insured people—may be treated in a thorough and effective manner, as they are in the army and the navy. In the investigation of adolescent insanity an attempt was made to discover, if it were possible, to distinguish between organic and functional cases. The two principal methods of examination were those of the cerebro-spinal fluid and of the eyes. These investigations revealed the fact that some cases are transient, while others do not recover, and that among these latter there is evidence at certain stages of toxic influences, as shown by the eye conditions, and of tissue change as shown by the abnormal cerebro-spinal fluid. With regard to this latter type some cases begin with a profound somatic disturbance. This acute progressive stage is followed by dementia which ceases to progress until a recurrence of the acute condition occurs. The general impression has been that heredity is a more potent factor in the functional than in the organic cases.

Glasgow Royal Asylum (*Annual Report for the Year 1913*).—The total number of patients under treatment was 567, the average number resident being 451. The admissions amounted to 120, and were all of the private class. Heredity was acknowledged in 51, or nearly 50 per cent. of the cases. With regard to the probable causes, in 17 cases it was apparently alcoholic excess, in 12 syphilis, in 14 the epochal periods of life, in 16 bodily illness of some kind, not included in the above, in 5 mental stress, in 24 heredity seemed the sole cause, while in 15 no adequate reason for the breakdown could be discovered. The discharges numbered 98, of whom 52 were recovered, making a percentage of 43 on the admissions. Dr. L. R. Oswald, the physician-superintendent, remarks that the criticism may be made that the recoveries in mental disease are not permanent, but that a large number sooner or later relapse. The partial truth of this must be admitted, the reason being that on account of a want of knowledge of the true nature of the illness patients are exposed after recovery to risks of relapse to which they ought never to have been subjected. Mental disorders predispose to recurrent attacks, instead of conferring immunity on the patient, who, therefore, ought not to expose himself, after recovery, to the same causes which brought on his illness. Thus students and teachers return to their studies although brain work was the cause of their breakdown; alcoholics resume their alcoholic excess, and others expose themselves to avoidable stress with the inevitable result of a further attack. The deaths were 27 in number, a percentage of 6 on the average number resident. Dr. Oswald considers that the borderland and psycho-neurotic cases are suitable for treatment in the wards of a general hospital. Nothing would do more to dispel the belief that there is some essential difference between diseases of the brain affecting the mind, and diseases of other organs of the body, than their treatment side by side in a general hospital.

Ayr District Asylum (*Annual Report for the Year 1913*).—The total number of cases under treatment during the year was 711, the average daily number being 567·45. There were 162 admissions. Dr. G. Douglas McRae, the medical superintendent, remarks that, to judge from the statistics of the incidence of insanity and the general population during the last five years, it would appear that certifiable insanity has been on the increase among the male section of the community, while it is actually on the decrease among women. It is also notable that during the past five years the average proportion of cases with evidence of excessive alcoholic indulgence was 38 per cent. among the men admitted, and 16 per cent. among the women, while this year the former have increased to 50 per cent. and the latter have declined to 10 per cent. Hereditary predisposition was ascertained in only 24 per cent. of the cases. Dr. McRae also calls attention to the apparent increase in the prevalence of general paralysis; in 1908 it was present in 9 per cent. of the male admissions, but this year it has increased to 14 per cent., while it was responsible for no less than 25 per cent. of the total number of deaths. The number discharged was 93, with a recovery rate of 41·36 per cent. The high rate among the men—namely, 43·48 per cent.—however, is mainly due to the fact that a large proportion of the cases had been temporarily removed from the cause of their mental aberration—namely, abuse of alcohol. The deaths amounted to 48, the proportion on the average daily number resident being 8·94 per cent. Tuberculosis was the cause of death in only three cases. Dr. McRae considers that the steady and marked diminution in the tuberculosis death-rate of the district during the last five years is due to the provision of the new hospital, which was opened in 1906.

Cumberland and Westmorland Asylum (*Annual Report for the Year 1913*).—The total number of patients under treatment during the year was 1039, the average daily number resident being 866. The direct admissions amounted to 174, the ages ranging from 8 to 84 years. Hereditary predisposition was admitted in 30·5 per cent. of the cases and alcoholic excess in 9·7 per cent. In 31 per cent., owing to defective history, no cause for the attacks could be ascertained. Ninety-six patients were discharged during the year, with a recovery rate of 36·2 per cent. Although this rate is 3½ per cent. higher than the average in English county and borough asylums, it is 6·4 per cent. below the high rate of the previous year, and considerably below the average recovery rate of this asylum. The lowered rate is accounted for by the unfavourable type of the admissions last year. Dr. W. F. Farquharson, the medical superintendent, lays stress upon the importance of the early treatment of mental cases in an asylum, and calls attention to the fact that the greater the delay in placing such cases in a properly equipped mental hospital the more prolonged is the attack likely to prove and the less the chance of ultimate recovery. Dr. Farquharson finds that the open-air treatment appears to have a remarkable effect in prolonging the life of the bed-ridden cases. There were 72 deaths, making a death-rate of 8·3 per cent. on the daily average number resident. The cause was verified in every case by post-mortem examination.

Sunderland Borough Asylum (*Annual Report for the Year 1913*).—The total number of patients under treatment during the year was 483, the average number resident being 389. The admissions amounted to 90, which is the lowest number since the asylum was opened 18 years ago. Dr. J. Middlemass, the medical superintendent, states that the cause for this is by no means clear. Usually when trade is good the admissions tend to increase in number, owing largely to the increase in cases due to alcohol. Last year the conditions which usually contribute to the prevalence of alcoholism were present, but there was a decided diminution in the admissions due to this cause. There were only 19 of these, whereas in 1912 there were 27 cases in which it was either the principal or contributory factor in causing the mental attack. This is a very considerable decrease, and it is to be hoped that it will not prove merely temporary. Of the other causes producing mental disease, those associated with the critical periods of life range next in order to alcohol. There were 14 in which this appeared to be the chief cause. Mental stress was the cause in 11 cases. It is striking how often the death of a relation after a long and harassing illness is followed by an attack of depression on the part of the nurse. The cases of general paralysis were 10 in number. The number of these cases seems to be again increasing, after being at an astonishingly low figure. Three years ago only 5 were admitted, but since then there has been a steady slight rise. Epilepsy forms nearly 15 per cent. of all the cases. The discharges amounted to 52 for the year, with a recovery rate of 42 per cent. There were 42 deaths, of which 5 were from pulmonary tuberculosis. With regard to research work in mental disease, Dr. Middlemass states that there is probably not more than £4000 a year spent in the investigation of the purely scientific aspects of mental disease. Considering that there are about 120,000 patients in all the asylums in this country, this expenditure seems ridiculously inadequate. Progress commensurate with that which is being made in other branches of medical science can only be expected in mental diseases when there is a large army of workers, as there has been in these other branches. The necessary research work would probably be best carried out in connexion with existing Universities, which already possess the necessary laboratories, or where these could most easily be placed if not already available. To the support of these the Universities, the Government, and Asylum Visiting Committees might all contribute. To these laboratories the medical officers of asylums could have recourse for instruction and for direction in their own scientific investigations. Could such a scheme be actually set on foot there is every reason to hope that in no long time very material advances in the knowledge of the causes and the treatment of mental diseases would be made.

THE LANCET.

LONDON: SATURDAY, OCTOBER 17, 1914.

Coöperation Between the Civil and Military Sanitary Services.

FOR some weeks past all over the country training camps have been in process of formation for the new army that is coming into being to reinforce and, where needed, to take the place of our regular troops. The call has been well responded to, and the numbers of recruits coming forward are satisfactory. More, many more, are wanted, but there seems no reason to doubt that they will be forthcoming. The first half million men were enrolled in a very short space of time, a second force as large is collecting, and if yet another million are wanted they will be found, while it is most satisfactory to see that adversities, indicating the prolongation of the struggle, have led to more rapid joining of the colours. We trust that the rate of recruiting, however, will promptly increase, as it is most important that the new men should get into training before the cold weather definitely arrives.

The aggregation of large numbers of young adults, of an age susceptible to disease, in circumstances of urgency, when the arrangements adequate for a small body of men have immediately to be expanded so as to suffice for a number perhaps five or six times as great, produces a condition of danger to health. This is a matter of grave importance, and one where the civil and military authorities must work hand in hand to secure the most favourable conditions. The sanitary state of barracks in this country is probably on the whole satisfactory; in the buildings of modern construction there is no doubt that this is the case. In the smaller and older buildings probably matters are in a fairly good state as regards essentials. As for camps there has been so much practical use of these during late years in manœuvres and for training purposes that their sanitary requirements are well understood, and we may suppose that all necessary arrangements are now carried out as a matter of course. But at the present time the whole strength of our well-trained but small regular medical and sanitary staff is in the field, and not available for safeguarding the health of the new army that is being built up at the military centres in this country. Its place has been supplied no doubt as far as possible by civilian medical men and retired medical officers, who exercise a general control over the arrangements, and by men of the St. John Ambulance Association and Red Cross Society, who attend to details. Fair accommodation has been provided, and the needs of this army in regard to feeding, clothing, and equipment are being satisfactorily met throughout the country. Thus, for instance, we are now told that a sufficiency of blankets for present and future needs has been assured. Regular supplies have been arranged, private charity has to some extent been systematised, and there seems every reason to believe that as our new recruits join, their needs in camp will be met promptly.

The preservation of the new soldiers' health and the prevention of the development of infectious disease are matters of the greatest concern, not only in regard to the value of the fighting force, but in regard also to the health of the populations in the neighbourhood of the temporary camps that have been established. In spite of all precautions it is likely that some cases of infectious disease will occur, and under the circumstances the liability to spread is obvious. No doubt all the medical officers in charge of these camps are fully alive to this danger, and are carefully on the watch for any suspicious cases. Only those who have had to deal with similar rapid concentrations of human beings, and the multifarious arrangements that have to be made for their accommodation, feeding, clothing, instruction, and so forth, can appreciate the difficulties of the position and the risk there is of infection being introduced and disseminated in spite of all precautions. As we noted at the time, the medical officer to the Local Government Board, after consultation with the War Office, invited five or six weeks ago the medical officers of the Public Health Service, in districts where troops are likely to be stationed, to place themselves in communication with the local military medical authorities, and to offer their services. By so doing they would be of the greatest assistance, and especially in advising as to local water-supplies, as to the disposal of refuse, the carrying out of drainage and conservancy arrangements in accordance with local conditions, and the control of infectious disease (including provision of hospital accommodation and disinfection). It is to be hoped that the local health officer and the military medical officer in charge will be in close touch with each other—*dare operas mutuas;* so cordial are the relations between the civil and military branches of the profession that there is happily no doubt that such will be the case; it will be to the advantage of each, and to the benefit of the civil population and the troops in equal proportion. Typhus fever, enteric fever, and small-pox are named as the three diseases especially to be looked out for, especially the two latter. Small-pox ought to be a negligible item, and as far as the regular army is concerned it has practically ceased to exist; but owing to the lamentable neglect of vaccination in this country during the last few years there is now a considerable unprotected youthful population, and until the recruit has been

satisfactorily vaccinated undoubtedly a real danger is to be apprehended on this account. The danger from enteric fever would arise not so much, probably, from insanitary conditions in a general sense as from risk of carrier cases. The War Office is arranging that every medical officer of health should be notified when a soldier convalescent from this disease enters into his district. Besides these cases of possible conveyance of infection it is to be apprehended that mild and unrecognised cases may also constitute a danger. Under the conditions of camp life such a danger is very greatly increased. No doubt the most watchful attention will be given to this matter, but in spite of every care experience has shown that, in the circumstances, spread of the disease is to be apprehended. However, when a danger is fully recognised it is almost overcome. The necessary precautions are well known.

The Local Government Board is actively co-operating with local medical officers of health in circumstances of difficulty, and we feel sure that every assistance will be given to the military medical officers in their very arduous task of training their men in sanitary methods and the prevention of disease, a duty of quite equal importance to that of the treatment of the sick and wounded in hospital or in the field. The work of the Royal Army Medical Corps comprehends the whole scheme of sanitation, and as Sir ALFRED KEOGH, who has now returned to take charge of the Army Medical Service, has well pointed out,[1] a "scheme of sanitation which omits to pay constant and unremitting attention to all the thousand minute details of the soldier's life, his food, his clothing, his housing, his work, can never hope to recover the ground so lost by the most brilliant schemes of water sterilisation or the most elaborate methods of disposal of excreta." In their onerous work the military authorities may count upon every assistance from the civil sanitary services which is requisitioned.

[1] "The Territorial Medical Service," by a Special Correspondent of THE LANCET, with preface by Sir Alfred H. Keogh.

MEDICAL SOCIETY OF LONDON.—The first ordinary meeting of the session was held on Oct. 12th. A vote of thanks to the retiring President, Sir David Ferrier, was proposed by Dr. F. de Havilland Hall, seconded by Mr. Willmott Evans, and carried with acclamation. Sir David Ferrier replied. Dr. Walter Broadbent proposed a vote of thanks to the other retiring officers. This was seconded by Dr. Steele Perkins and passed unanimously. Dr. R. A. Young, the retiring honorary secretary, replied. Sir David Ferrier then introduced the new President, Sir J. Bland-Sutton, and invested him with the badge of office. Having taken the chair, Sir J. Bland-Sutton delivered his opening address on Cancer of the Small Intestine, which is published in full in this issue of THE LANCET (p. 931). A vote of thanks to the President for his address was proposed by Mr. F. Swinford Edwards, seconded by Sir StClair Thomson, and carried unanimously.

Annotations.

"Ne quid nimis."

MITCHELL BANKS, A GREAT SURGEON.

THE third Mitchell Banks Memorial Lecture was delivered last week by Sir Victor Horsley, who drew some valuable present-day lessons from the life work of the famous Liverpool surgeon, of whom he said that he had tried to live up to Pasteur's scientific ideal that "the doctor must consider what people will say about him a hundred years hence and not trouble himself about the blame or praise of to-day." Sir Victor Horsley pointed out that Mitchell Banks, Edinburgh born and bred, was the child of a school celebrated in particular for the academic recognition of anatomy, while Goodsir, whose pupil Mitchell Banks was, had also comprehensive views of medical work in its relations to the social life of the people. These things undoubtedly conduced to the double development of Banks's work at Liverpool, whereby during his tenure of the chair of anatomy that department became the most flourishing in the old University College of Liverpool, while later as a professor in the new University his work showed deep sympathy with the aims of social science. The two subjects of Mitchell Banks's work chosen by Sir Victor Horsley for particular mention as honourably associated both with the name of Banks and with the record of Liverpool surgery, were the treatment of cancer and the treatment of hernia. Sir Victor Horsley showed that when nearly 40 years ago Banks published in detail the results of his work on cancer of the breast he dispelled a sort of intellectual fog by establishing two principles—viz. (1) that the whole of the breast tissue must be removed because even in parts of the gland not obviously the seat of active cancer there were nevertheless changes which must be regarded as pre-cancerous; and (2) that all the lymph glands in relation to the mammæ should be removed on the ground that it is impossible to determine at the time of operation, when they appear to be normal, that they are not really infected. Mitchell Banks was a motive force in dispelling the fatal error of incomplete operating in such cases, and well deserves to receive the credit due, though even now, Sir Victor Horsley considers, the necessary procedure is not followed in its entirety except by a few surgeons. In another direction, with what Sir Victor Horsley aptly terms "practical prescience," Mitchell Banks seized upon a common infliction imperfectly treated, and was untiring in his efforts to ensure a real facing of the conditions, so that surgical methods could be adopted, based alike on anatomical knowledge and well-informed prognosis. Mitchell Banks was very early to see that the proper treatment for hernia is as a rule the radical operation, a point of view which to-day seems merely reasonable, but which, when Banks was a young man, represented dangerous speculativeness. The radical cure of hernia could not be regularly employed, save as an adjunct to an operation for the relief of strangulation, until Lister had freed operative procedures from the risk of infection, but when freedom from sepsis was ensured it became wrong to regard the application of a truss as a satisfactory measure. Sir Victor Horsley pointed out in a vigorous plea for

thorough surgery that the only real pathogeny of hernia is that formulated by Mr. R. Hamilton Russell,[1] who has taught that a preformed sac is the causal factor of hernia; in complete line with this teaching is Mitchell Banks's procedure for radical cure—namely, removal of the sac with restoration of the continuous peritoneal surface and protection of the hernial area by closure of the femoral canal. Sir Victor Horsley's address was both a fitting testimonial to a great surgeon and an outspoken plea for thoroughness in our surgical methods.

OLD FIREARMS AND GUNSHOT WOUNDS.

EARLY Arab historians call what is credibly believed to have been gunpowder "Chinese snow" and "Chinese salt," and the Chinese are supposed on good authority to have used explosives and some sort of cannon centuries before the Christian era. Their invention was known as "Greek fire" to the Byzantine Greeks, then to the Arabs, and it reached Western Europe in the thirteenth century. Firearms have been discussed by many writers from the time of Leonardo da Vinci onwards. One of the early classic authorities on wounds in war, including gunshot wounds, is the quaint Hans von Gersdorff, whose "Feldtbuch der Wundartzney" was printed in the ancient free city of Strasburg in 1516 and again in 1526. Von Gersdorff's curious black-letter pages, written in a German closely resembling the modern *Strasbourgeois*, have almost a pacifist tendency when compared to the ferocious record of modern warfare, with its howitzers built into concrete platforms, its holocausts of slaughter and appalling wounds. The "Wound Medicine Book" deals largely in rude woodcuts, and we are shown a soldier, a rough man suffering great pain, as the ancient engraver has managed to portray, from whose chest an arrow or bullet is being withdrawn by an army surgeon. A soldier holds the sufferer by the shoulder to steady him on his three-legged stool, while the surgeon, distinguished by black shoes and a slightly more elaborate costume, is performing the operation. The patient might be the Valentine of "Faust." The same kind of cut reappears in William Clowes's classical work on surgery in the time of Queen Elizabeth, but the costumes in this latter case seem to date from the fifteenth century. Von Gersdorff, who, by the bye, does not seem to have been a noble, for he rejoiced in the peasant nickname of Schielhans, is more explicit on the subject of arrow wounds than of gunshot wounds. When the subject has been wounded by an arrow there are three ways of treating him. Either, he says, the shaft must be pulled out bodily, which is risky, or driven right through to the other side, which is very fatal, unless some fleshy portion of the patient only is involved. An arrow through the buttock, for instance, may be pulled right through. In a third case, when the arrow remains fixed, several courses may be adopted. The wound may be enlarged with a scissors or knife or, better still, it may be allowed to grow corrupt, when in the general softness the arrow-head will come away of itself! In dealing with gunshot wounds the procedure recommended is similar, except that it is not suggested that the bullet should be pushed through the wounded part. Probing by sounds, and inunctions of oil with the hand, are recommended, and the wound may be enlarged by cutting instruments or by the old now disused instrument called "the dilator," which Schielhans calls the "hole-maker" (*loucher=locher*). The smashing wounds caused by modern projectiles are not contemplated by this old writer, whose picture of a bullet shows us a missile only about three inches in diameter striking a man's leg. The old field-pieces of that age were rarely very large. One only is represented by von Gersdorff. It is about six feet long and is being used in a battle between men armed with lances. In Francisco Rota's book on "Gunshot Wounds," published at Bolcgna in 1555, there is a design on the title page representing small field-pieces, some of which have solid non-spoked wheels and the arquebuses of the day—huge muskets, propped up upon tridents. The arquebus only came to be shot from the shoulder after it had been for long shot as a cannon from a stand, as Robinson Crusoe shot his fusils. The Germans, curiously enough, are said to have been the first to fire the arquebus from the shoulder. They are now said, on all hands, to fire from the hip, and it is possible that the arquebus being very heavy and awkward in make was thus anciently fired. A remarkable point that may here be noted is that the ancient descriptions of the effects of a severe gunshot wound do not differ from those in the modern text-books. In both ancient and recent writers there is the same account of the trembling fit, the complaint of cold, the pallor, the suddenly lowered pulse after a bullet has gone home. William Clowes holds almost this modern language in the time of Queen Elizabeth, and the dreary theme has been elaborated by the master hand of Tolstoi in "War and Peace." We, at the present, realise all these descriptions to a strange degree. And old von Gersdorff, who wrote of little battles where few fell, on that terrible tortured borderline where now the hugest battle of all time is raging, is a notable and sad reminder to us that civilisation since his time has brought its losses as well as its gains.

[1] The Saccular Theory of Hernia and the Radical Operation, THE LANCET, Nov. 3rd, 1906, p. 1197.

CHINA TEA.

IT is well known, of course, that China tea contains much less tannin than the teas of India and Ceylon, but, as we have pointed out, if the infusion contains theine and tannin in a certain ratio, neither of these would appear to be present in the free state. The amount of theine upon which the restorative qualities of tea depends in all three teas is much the same. The existence of three kinds of tea enables the consumer to choose the one which suits him, and his judgment is commonly based on popular opinion as to flavour. The Board of Trade returns show that the consumption of China tea in the United Kingdom for the first eight months of the present year exceeded by 4,000,000 lb. that for the corresponding period of 1913. Notwithstanding the temporary insecurity of the Eastern seas, the supply of China tea, we understand, which has reached London is large enough to enable the importers to sustain the market at normal rates, so that the increasing number of consumers of China tea will not suffer in price. The reason, no doubt, for the increasing popularity of Chinese tea is that the Chinese Government is becoming alive to the need of modern methods of treating the plant. It is picturesque, if nothing else, that there should be a chance of our reverting in these days to the old-fashioned growths which held their own at the tea

tables of Queen Anne, when the fluid was called "tay" and the leaves cost £1 a pound.

THE ACTION OF THE IODIDES ON THE HEART AND BLOOD-VESSELS.

THOUGH the iodides are among the most frequently used drugs of the Pharmacopœia their mode of action is still imperfectly understood. Thus in arterio-sclerosis some suppose that they promote absorption; others that they decrease the viscosity of the blood; still others, such as Potain, that they lower blood pressure by acting on the heart and vaso-motor nerves. On the other hand, Romberg, Kraus, and Dr. James Mackenzie could not find any influence on the heart or arterial lumen. Experiments on animals have been equally contradictory. In the *Johns Hopkins Hospital Bulletin* for September Dr. David I. Macht has published an important research. Previous observers only investigated the action of the iodides as such, without paying attention to the rôles played by their constituents, iodine and potassium or sodium. Dr. Macht prepared Locke's solution according to the following percentage formula: $CaCl_2$, 0·024; KCl, 0·042; $NaHCO_3$, 0·03; NaCl, 0·9; dextrose, 0·1. In order to study the potassium constituent of KI he replaced part of the NaCl by an equimolecular weight of KCl. In order to study the action of the iodine constituent he replaced part of the KCl by an equimolecular weight of KI. The solutions were perfused through the abdominal aorta of a frog and the outflow from the veins of the legs was registered on a revolving drum. The results were as follows. The I ion markedly constricted the vessels, the K ion relaxed them, and the Na ion had little or no effect; if anything it increased the vascular tone. The effect of injections of the salts KI and NaI was a combination of the effects of their component ions. NaI distinctly constricted the vessels. KI produced either no effect or a slight increase of tone, showing that the I effect balanced or overbalanced the K effect. On the frog's heart the K ion had a very depressing action, causing speedy arrest in diastole. Iodine was an active stimulant and Na had a slightly tonic effect. The effects of KI and NaI could easily be explained by the effects of their components. NaI stimulated. KI showed the predominating influence of the K ions; weak solutions produced slowing and weakening and stronger solutions arrest. Finally, experiments were made on the blood pressure of intact animals. Locke's solution injected in quantities of 5 c.c. per kilo. produced no appreciable change nor did NaI or KI in small doses. Large doses of NaI produced no effect or a slight tendency to rise; of KI, a marked fall. The latter was due to the K ions, for a similar effect followed substitution of KCl for NaCl in Locke's solution. When the effect of I ions was studied by substitution in Locke's solution, contrary to expectation, no rise in blood pressure was observed. The explanation was furnished by an observation made many years ago by Boehm, who showed that considerable quantities of iodine could be injected into an animal without producing a rise in blood pressure, because the iodine combined with the proteids of the blood. The practical conclusion follows from these experiments that when iodides are given to depress the circulation, as in aneurysm, it is not indifferent which iodide is chosen. It also follows, as far as experimental evidence goes, that the iodides have no special virtue in lowering blood pressure, but that the effect is entirely due to potassium, and might even more readily be obtained from other potassium salts. In this connexion the recent summary by Schwalbe of the views of German clinicians is interesting; the weight of opinion is unfavourable to the use of iodides in arterio-sclerosis.

THE RECLAMATION OF THE CAMPAGNA.

Mr. L. Villari wrote an article on this subject in the *Edinburgh Review* recently which is of considerable medical interest. The Campagna is a congeries of hummocks rising into hillocks, intersected by *fossæ* either stagnant or dribbling their way into the Tiber. How is it that this should be the true description of an expanse of soil which was once famed for vegetative energy, and which, in response to cultivation, was covered with patrician residences and surrounded with gardens over which Pomona and Flora seemed in person to preside? How is it that a tract of country once a favoured health resort should have degenerated into a fever preserve, repelling that occupation which is the first condition of its rehabilitation? To these questions Mr. Villari gives an answer, which, we are happy to gather, is but the prelude to an independent treatise in which not only the "decline and fall," but the rise and "Risorgimento" of the Agro Romano will be set forth in full and authoritative detail. Meanwhile, views of the origin of one of the most characteristic phases of the Campagna, its unhealthiness from "malaria," are gaining ground which imply that insect life, in some of its most pernicious developments, is not the *causa causans* of the "malaria" in question, but is itself a symptom of a deeper pathological coefficient without which the said insect life would cease to exist. The Poet Laureate of Nature-study, in a magnificent episode of the Georgics, goes down to the root of the matter in that one most significant phrase—"justissima Tellus," a phrase interpreted by one of his best commentators in this sense: "Justissima, quippe quae creditum (semen) cum foenere reddere solet" (wont to pay back with interest the seed entrusted to it). Left derelict, or deprived of its proper treatment, the soil avenges itself by an unerring retribution—its unutilised vegetative energy taking the form (in Léon Colin's expression) of a "telluric respiration" which, infecting the atmosphere, evokes the insect (the scavenger of the air) which gives back the poison it absorbs. Wherever cultivation has done justice to the soil, rendering the "telluric respiration" healthy, the insect disappears and with it the "malarious" infection. To this Mr. Villari bears emphatic testimony, showing how the "bonifica" (reclamation) now in progress under Government is, precisely in those localities where it has been thoroughly practised, the prelude to the extinction of the insect (deprived of its pabulum), and, coincidently with this, the disappearance of the "malaria" and of the fever it induces. In other localities, where the "bonifica" is still to be effected, the State provision of quinine and wire gauze in the dwellings have had most salutary uses—the notable reduction of sickness, as shown by Mr. Villari's figures, being a result as incontestable as it is gratifying. But these are preventive measures, and the money expended on them, while a heavy draft on a not very affluent exchequer, would be commendably employed in reinforcing and accelerating the "bonifica"

already yielding such a rich and perennial return. The appropriate utilisation of the vegetative energy by scientific agriculture—in a word, the restoration of the Campagna to the salubrity and the amenity it enjoyed under the Antonines—such is the prospect to which Mr. Villari invites us in the article above referred to, a prospect, moreover, of which we are promised a fuller fruition in the treatise on which he and his coadjutors are now engaged.

CARRIAGE OF POLIOMYELITIS INFECTION.

IN a report recently issued by the Local Government Board [1] Dr. H. A. Macewen gives the facts as to the distribution in place and time of the 56 cases of poliomyelitis known to have occurred during the summer and autumn of 1913 in Barrow-in-Furness and the wide area, including much of Westmorland, which lies between Barrow and Appleby. Groups of cases, amounting to 30 in all, occurred in Barrow between the end of March and the beginning of August; from July to the end of the year the disease ceased to appear in Barrow, but odd cases or small groups of cases came to notice in places within a 30-mile radius, and even beyond. Within Barrow the affected houses were in some instances close together, and some associations, direct or remote, could be traced between the persons attacked. In the first group of invaded dwellings in Barrow "the child No. 1 shortly before falling ill on March 23rd played with the child No. 3, the onset of the illness of the latter being some time in April, though the exact date could not be ascertained. The children Nos. 10 and 20 in Barrow Group No. 2 resided in the same street within a few doors of one another, and it was customary for them to play together before the first child fell ill. ..... The mother of child No. 8 in the Barrow Group No. 1 had often been in the house of child No. 3 during the course of its illness and before her own child fell ill"; and so it was with other cases within and outside Barrow, where not infrequently circumstances were detected which would have permitted the inference to be drawn that an infection, with a variable incubation period, had been carried in some way from one known case to another. Against all such theories of personal carriage of infection, however, Dr. Macewen places the fact that there was no single instance of multiple cases in the same house amongst the whole of the 56 cases investigated. The other children of the family, brothers and sisters, living in the houses where cases occurred amounted to 139, the great majority of ages being under 10. It is difficult to reconcile the supposition that the disease had been spread by direct or indirect personal carriage of infection with this absence of attacks among other members of the families, unless, perhaps, on the hypothesis that the total number of persons in this area who were susceptible to attack by poliomyelitis was very limited indeed. The suggestion that the infecting organism is introduced by biting flies has often been made, and on the hypothesis that bites from an infected fly are necessary the limitation of cases to single members of a family would be intelligible. But before such an explanation can pass out of the realms of mere conjecture the fly must be identified, and some evidence be produced as to whether the virus is carried by the fly from human case to human case, or whether it is otherwise acquired by the insect. It is noteworthy that as a rule there was no history of concurrent illness among members of the family of the households attacked, although Barrow was visited in the spring of 1913 by a severe outbreak of influenza, affecting a large number of persons and causing several deaths. Information on many other points is set out and tabulated by Dr. Macewen, and though it leads to no definite conclusions as to the mode of spread of poliomyelitis, the report is of distinct value as indicating the conditions of occurrence and distribution of the disease which require to be explained by any satisfactory theory of its causation.

[1] Reports on Public Health and Medical Subjects, No. 98. London: Wyman and Sons, Fetter-lane; Edinburgh: H.M. Stationery Office; Dublin: E. Ponsonby. Price 8d.

THE LOCAL THERAPY OF TETANUS.

A large number of cases of tetanus have been reported as occurring among the soldiers wounded at the front, and it may not be out of place to draw attention to an article on this subject by Dr. G. Vitello published in *Il Morgagni* of July last. The writer urges that, although tetanic spores resist the action of antiseptics, they are not of themselves capable of producing the intoxication. In order that they may be put into a condition to secrete the toxins it is necessary for them to be bacterially associated with other micro-organisms which, being much less resistant to the action of antiseptics, can be easily destroyed, even by weak solutions. It is presumable, therefore, that in the disinfection of a tetanic wound the micro-organisms which are the most efficiently destroyed are not the spores which resist for a long period the action of the antiseptic, but those micro-organisms which are found with them in the wound and which under natural conditions confer on them the faculty of virulence. If, on the other hand, the spore is alone and without the collaboration of these germs, it is not capable of secreting the toxins and remains inoffensive in the wound. It has, moreover, been experimentally demonstrated that rigorous antisepsis of wounds during the period of incubation is often successful in aborting the disease in its pretetanic phase. The use of tincture of iodine is to be strongly recommended for this purpose and Formiggini, in a case of tetanus which had developed subsequent to a wound of the upper eyelid and which he had treated by suitable disinfections with tincture of iodine, showed that in the bacteriological examination of material taken from the wound ten days after its occurrence, a bacillus was isolated, having cultural and morphological characters similar to that of Nicolaier, but which was not pathogenic to guinea-pigs and rabbits. Hence it may be argued with some degree of probability that tincture of iodine used in tetanic wounds has the property of rendering innocuous the specific micro-organisms, or of ensuring that should tetanic phenomena unfortunately make their appearance they will show themselves in a mild form. Mention of another method of treatment must not be omitted—namely, the local sero-therapy practised for more than ten years in Italy by Professor Tizzoni. Sero-therapy, which constitutes the most scientific means of combating tetanus, may also be of great value in its local cure. A. Calmette infected wounds made on various parts of the body in ten guinea-pigs by a mixture of dust and earth containing fresh tetanic spores. While the control animals were seized with fatal tetanus in from four to six days, the ten which were treated two to six hours after infection with the application of dry tetanic serum to the wound remained immune. Professor Tizzoni from his experiments has proved

that the local action of the serum is much more efficacious than its general action, and he advises always that injections of antitetanic serum should be made as near as possible to the wound. When the wound is open he recommends plugging it with gauze soaked in the serum so as to attack more deeply and directly the parts first assailed by the poison.

THE LESIONS OF THE THYROID GLAND IN GRAVES'S DISEASE.

THE April number of the new *Annales de Médecine* contained an instructive paper on the lesions of the thyroid gland in exophthalmic goitre by Dr. Gustave Roussy and Dr. Jean Clunet of Paris, which it is not too late to introduce to our readers. It serves to illustrate the difficulty of determining the significance of morbid changes and of "following the trail" where these lesions are multiple and multiform. It has often been taught that no histological criterion exists whereby to distinguish between simple goitre and exophthalmic goitre; chronic inflammatory changes, sclerosis, colloidal alterations, adenoma, and interstitial haemorrhages are described as occurring in either. In this paper, which is based on a considerable number of personally observed cases, the writers show that in exophthalmic goitre the lesions are of three types. 1. Epithelial hyperplasia, exactly comparable to what they have seen as compensatory hyperplasia in the thyroid of dogs, following on experimental incomplete thyroidectomy. The hyperplasia is recognised by the presence of cylindrical cells, overgrowth of acini, and pale, ductile colloid. It is only in exophthalmic goitre and experimental compensatory hyperplasia that these histological changes are found spreading over the whole gland; in senile thyroid sclerosis and in slowly progressing simple goitre they may be found in small local isolated patches; hence, if not strictly specific, their extension over the gland is highly characteristic. 2. Little islets of eosinophil cells are found in a very large percentage of thyroids in exophthalmic goitre and are regarded by the writers as forming an important cytological feature of the disease. 3. Masses of lymphoid cells are extremely common in exophthalmic goitre, but not specific; they occur exceptionally in other forms of thyroid inflammation and in other goitres, but never to the same extent as in Graves's disease. These latter cytological alterations are not present in experimental compensatory hyperplasia, a fact which suggests that in Graves's disease the condition is not so much one of simple hyperplasia as of dyshyperplasia. As for the vexed question whether the affection is a primary disease of the thyroid gland, the attitude of the writers is that the disease is primary in the thyroid, and that visceral, nervous, and muscle changes found at necropsy, especially those of the sympathetic, are secondary lesions due to the action of thyroid toxins, with the exception, however, of alterations of the thymo-lymphatic system. The suggestion is put forward that these are of some importance in the production of the syndrome and that they are the direct sequel of the infection originating the whole morbid process. As long as this infective element is in process of evolution, sodium salicylate, quinine, arsenic, and mercury are of value in treatment. Once the dyshyperplasic state has set in "hémato-éthyroïdine" and Mœbius's serum are useful. Partial thyroidectomy is of less value than slow progressive experimental atrophy, which can be produced satisfactorily by radiotherapy.

TUBERCULOUS BRONCHIAL GLANDS IN CHILDHOOD AND ADULTS.

THE different types of pulmonary tuberculous infection in children and adults are, of course, familiar—how, in the former, gland infection dominates the clinical picture, and how, in adults, the general lung parenchyma mainly suffers. The explanation of the cause of this difference is not simplified by the later researches of Kuss, Albrecht, and Ghon, which suggest that, even in children, bronchogenous infection is the rule, and that the initial lesion in them is not primarily glandular, but situated in the lung. The claim that the glandular infection is explained by the different route of the tubercle bacilli in children is thus opposed by these researches. If, then, at both ages the path of infection is similar, why is the site of the lesion so different in each? Dr. E. Rist[1] records some pathological observations which help to throw light on this question. In the first place, he finds that post-mortem examinations on adults, who when young had gland infection, now show no evidence in the bronchial glands of the past disease; and, further, both in these cases and in adults who suffer from pulmonary tuberculosis *de novo* the glands are but little affected, and this even if there has been a long phase of caseating lung tuberculosis preceding death. Again, the glands show in such cases no abnormal macroscopical appearances. Microscopically, true, there may be small evidences of gland transformation indicative of the past infection, but such hyaline degeneration does not prevent the rest of the gland from reacting to the later infection. And that they can so react is shown by their inflammatory response to such a condition as pneumonia. That they do not so respond to added tuberculous infection shows that their manner of response has in some way been specifically altered. Dr. Rist suggests from these facts that this freedom of glandular response to tuberculous infection is an obvious illustration of what Professor von Pirquet calls allergy. It is the same condition which protects the mucous membrane of the mouth and tongue of the consumptive patient against tuberculous infection; and, similarly, the skin. Caseation of the bronchial glands, then, on this showing, is not a specific character of childhood, but of primary tuberculous infection. If, on the other hand, pulmonary tuberculosis of the adult is, as a rule, not associated with such a condition, it is not because the lymph glands of the adult are different from those of the child, but simply because pulmonary tuberculosis of the adult is due to a *re*-infection, and the glandular response thereto has been altered. The argument is of considerable interest.

Sir Wilmot Herringham, M.D., Vice-Chancellor of the University of London, will take the chair on Tuesday next, Oct. 20th, at 8.30 P.M., at the first of a series of six lectures on "Louvain and its University," which will be delivered in French at University College by Professor L. Van der Essen.

THE Harveian oration will be delivered before the Royal College of Physicians of London by Sir Richard Douglas Powell, Bart., at 4 o'clock precisely on Monday next, Oct. 19th.

[1] Edinburgh Medical Journal, 1914, xiii., 215.

THE CLAIMS OF BRITISH SPAS.

(*Continued from p. 863.*)

III.—HARROGATE.

THE name of Harrogate will always be associated with its evil-smelling sulphuretted hydrogen waters, in spite of the very important developments which have been made in regard to methods of treatment which are independent of the use of those waters.

The sulphur waters of Harrogate are unique in composition; their exact equivalent is not to be found on the continent nor among other sulphur springs known in this country, as at Strathpeffer in Scotland and Llanwrtyd and Llandrindod in Wales. The quantity of sulphur present either in the form of sulphuretted hydrogen or of sulphide of sodium exceeds that of such well-known sulphur waters as Aix-la-Chapelle or Baden. Abroad, however, the sulphur springs are generally thermal, while those at Harrogate are cold, and this fact probably accounts for their superiority in sulphur constituents. The old sulphur well at Harrogate contains no less than 37 cubic centimetres of sulphuretted hydrogen (H_2S) per litre and 0·07 gramme of sodium sulphide. There are present also 12·7 grammes of sodium chloride and distinct quantities of barium chloride, which in view of the powerful action of this salt cannot be disregarded. Not all the springs show this composition, and there are no less than 80 mineral springs at Harrogate, of which 16 or 17 are used for internal administration and the remainder for bathing purposes.

Last year the completion of some important extensions to the spa establishments at Harrogate was accomplished, which promise to bring it into formidable competition with the health resorts abroad. A few facts will justify this conclusion. As we reported last year,[1] owing to the accommodation of this popular resort having become inadequate, a commodious annexe was completed which has proved a great convenience to its increasing patrons. In the height of the season no less than 2700 glasses of water were served each morning before 9 o'clock from the historic spring known as the old sulphur well. No less than a quarter of a million sterling has been spent on this hydropathic station during the past 40 years, and the returns of 1912 show that over 500,000 tickets were issued to water drinkers and 160,000 for treatment. There is a very interesting fact underlying the good medical work done at Harrogate. Not very many years ago the town of Harrogate was losing something like £2000 a year on its baths and wells, but the authorities did not let this discourage them, and they have been rewarded, for now there has been paid off in redemption of debt and in interest the handsome sum of £70,000, and at the same time £11,500 have been apportioned towards the relief of rates. These facts speak eloquently of the admirable efforts on the part of the authorities at Harrogate to bring the medical and social advantages of their health centre into the sphere of public patronage enjoyed by watering places abroad.

The nucleus of attraction at Harrogate is a fine natural endowment of medicinal waters, and the cases for which they are suitable are well known. The treatment at Harrogate is applied to those cases which derive benefit at such places as Aix-la-Chapelle, Homburg, and Kissingen. Amongst the cases may be included chronic dyspepsia, constipation, congestion of the portal system, functional hepatic disorders, and so forth. Chronic gout and rheumatism receive relief from both internal treatment and a course of baths. No claim is made on the score of the natural waters being radio-active, though events tend to show this to be the case, and according to modern views it appears to be recognised that radio-activity is of undoubted assistance in promoting the therapeutic action of the naturally occurring chemical ingredients such as are found in Harrogate waters.

We have often pointed out that at our home health resorts treatment is too usually confined to the use of waters, whereas the régime insisted upon in continental methods enforces, in addition to a regular course of baths or of drinking the waters, a rigorous control over general and dietetic habits. This lesson, we believe, has been learnt at Harrogate, and, more than this, the strict routine so enjoined receives the relief required in the shape of social amusements in an environment of healthy air and attractive scenery. Harrogate may fairly be placed amongst the bracing watering places inasmuch as it is situated at an altitude of 600 feet or so above sea level, and the air is dry owing to the environment being free from woods, rivers, and lakes, the surroundings, in fact, being the well-known moors and dales of the West Riding. There is no doubt that treatment is well assisted at Harrogate, as at others of our health resorts, by favourable climatic conditions.

First-class facilities have been provided at Harrogate for extra hydropathic treatment. In addition, for example, to the variations in the methods of applying the natural waters, as in mud baths, sprays, irrigations, and internal administration, relief is offered by a great variety of electrical, thermal, and mechanical appliances. As we have previously reported, the appliances for electrotherapeutics are very complete. There is a fine installation of hydro-electric baths and every precaution is taken to make accident impossible. There is an independent electrical supply, and the baths are so insulated as to give a resistance to earth practically amounting to infinity. Every form of current is readily available. Static electricity is supplied by a high-speed ebonite plate machine, which is reported to give satisfactory results. High-frequency electricity is obtained from about half a dozen sets of apparatus in various parts of the station. It is used through vacuum electrodes for a variety of conditions, for the production of ozone, and for bipolar massage, a form of treatment that has given good results at Harrogate. Diathermy is in full employment and the results are encouraging. Then there is the apparatus for the treatment of obesity by the method suggested by Bergonié. A faradic current is employed, and by means of several electrodes distributed over the body according to a definite scheme, the principal muscles are made to go through a series of rhythmic contractions against a load that is adjustable by the use of sandbags. Exercise is thus obtained without fatigue, and a loss of weight is observed from the beginning of the treatment as well as an improvement in general health. The installations at Harrogate include complete equipments for Berthollet treatment, sulphur and needle baths, the Plombières bath and douche, Vichy massage douche, the liver pack, the oxygen bath, the Schwalbach bath (natural ferruginous water), the brine bath, inhalation systems, throat sprays, nasal

[1] THE LANCET, June 14th, 1913, p. 1685.

douche, radiant heat and light treatment, cataphoresis, massage, and, in fact, all the accessories which are now recognised as forming part of the scientific equipment of an establishment claiming to be progressive in the different branches of hydropathic practice.

Finally, the social attractions at Harrogate are well organised, and the medical routine is relieved by recreations provided in sports and in a well-appointed concert hall and theatre and other places of amusement.

Harrogate, in short, furnishes a decisive answer in the affirmative to the question as to whether these things can be done at home in the same efficient manner as is the case abroad.

"THE LANCET" HYGIENIC TESTS FOR GAS FIRES.

WE continue to receive from well-known makers of gas fires models for submission to THE LANCET test for hygienic efficiency. The spirited way in which the industry has taken the matter up, and its determination to render this method of domestic heating free from hygienic reproach, are very satisfactory, and we are glad to have played a part in the work. But we do not forget, and have pointed out before, that much to their credit the movement was begun by a firm of gas-fire makers—namely, Messrs. Davis and Co., of Luton, who introduced the shadowgraph, an apparatus designed for detecting the escape into the room of water vapour from the fire. Its action depends upon the deposit of moisture upon cooled glass brought in front of the canopy of the stove.[1] This invention has done excellent service, and it inspired the introduction of another test which was devised in THE LANCET Laboratory. The test is a chemical one and admits of simpler execution. It consists in allowing a small amount of carbon-tetrachloride vapour to flow into the gas-air stream. A piece of chalk soaked in carbon tetrachloride is simply placed near the air inlet. The result is that a correspondingly small amount of hydrochloric acid gas is produced. If now a piece of sponge containing liquid ammonia be brought to points along the canopy of the fire, fumes of ammonium chloride will be formed if the products of combustion are escaping into the air instead of passing through the flue nozzle to the chimney. We have now examined over 25 models by this method since our first report was issued, and every one of them has passed the test satisfactorily.

The following fires were recently sent in by Messrs. Fletcher, Russell, and Co., of Warrington, and 134, Queen Victoria-street, E.C.: (1) Rosario; (2) Palermo; (3) Toledo; (4) Borneo; (5) Dee; (6) Dart; (7) Dove; and (8) Dane. All the fires were of modern design, and not one showed leakage of products of combustion when submitted to the test. The test was made in the open room both with and without a 2-ft. flue attached. The 2-ft. flue was not found to be necessary.

The Planet Foundry Co., Limited, of Guide Bridge, near Manchester, and 28, New Bridge-street, sent in the following fires: (1) No. 2 New Mars; (2) No. 2 New Venus; and (3) No. 2 New Saturn. These are well designed fires and evidently constructed with hygienic considerations in mind, since they all passed the test satisfactorily in the open room without a flue attached. We should like to make the suggestion, however, that the maximum consumption of gas in these stoves might with advantage be increased in order to extend upwards the incandescence of the "radiants."

[1] This apparatus was fully described in THE LANCET of Feb. 7th, 1914.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

A QUARTERLY meeting of the Council was held on Oct. 8th, Sir W. WATSON CHEYNE, the President, being in the chair.

It was resolved, on the recommendation of the Museum Committee, to purchase the complete skeleton of an okapi.

It was reported that three attendants in the museum had enlisted and that the hall-porter had re-enlisted in the army, and it was resolved to pay them full wages for the next six months.

Sir RICKMAN J. GODLEE, on behalf of the committee on the annual report of the Council, submitted a draft copy of the report to be presented to the Fellows and Members at the annual meeting on Thursday, Nov. 19th next. The report was approved and adopted.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeon: P. M. May to the *Victory*, additional. Staff-Surgeon: A. F. Fleming to the *Victory*, for R.N. Division, Walmer. Surgeons: R. A. Rankine to the *Cyclops*, additional; K. H. Hole to the *Victory*, additional; and J. Barrett to the *Fisgard*. Temporary Surgeons: A. R. MacMillan, J. Rothwell, H. L. G. Foxell, P. B. Kelly, C. E. W. Lacey, A. A. Ballance, H. C. Waldo, and M. Onslow-Ford to the *Victory*, additional, for R.N. Division; H. G. Brown to the *Victory* for R.N. Division, Crystal Palace; L. R. Warburton to R.N. Division, Plymouth; C. Warner to the *Devonshire*; H. Wilks to the *Ganges*; and C. J. C. Faill to the *Victory*, additional.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel M. T. Yarr has been appointed Deputy Director of Medical Services for the London District.

Colonel Richard H. S. Sawyer is retained on the active list under the provisions of Article 120, Royal Warrant for Pay and Promotion, 1913 (dated Oct. 9th).

Major Harry A. Hinge to be Lieutenant-Colonel (dated Sept. 19th).

The undermentioned are granted temporary rank as follows whilst serving with the Duchess of Westminster's War Hospital:—Dated Sept. 27th: As Major: Charles Gordon Watson. As Captains: William Philip Sutcliffe Branson, Harold Pritchard, and Sydney Scott. As Lieutenants: John Southerden Burn and Dudley Macaulay Stone.

The undermentioned to be temporary Lieutenants:—Dated August 5th: Charles Ernest Lewis Burman. Dated Sept. 28th: Sydney Domville Rowland. Dated Sept. 30th: Lindsay Clive Smith, late Lieutenant, 4th Battalion, The Suffolk Regiment, Arthur Beeny Appleton, and Francis Caven Macdonald. Dated Oct. 1st: David Thomson, Eric Francis Wallace Mackenzie, Thomas Ebenezer Lawson, Frank Edwin Johnson, and William MacEwen. Dated Oct. 2nd: Charles George Lewis Wolf, Clayton Conyers Morrell, George Cuthbert Adeney, James Biggam, Cuthbert Scales, David Pottinger, John Richard Percy Allin, Leslie William Howlett, Wallace MacCallum Conley, and David Hardie. Dated Oct. 3rd: Richard Henry Cyril Gompertz, Arthur Baker Le Mesurier, Geoffrey Hadfield, William Alexander Todd, John McFadden, Robert Bertram Blair, Philip James Watkin, and Matthew Murphy. Dated Oct. 7th: Francis Frederick Muecke, John Nichol Clark, William Henry Laslett, Jeffery Wimpris Parker, and Malcolm Angus MacDonald. Dated Oct. 8th: Arthur Owen Playford Reynolds and Arthur Ainslie Hudson.

SUPPLEMENTARY TO REGULAR UNITS OR CORPS.

Royal Army Medical Corps.

The undermentioned Lieutenants are confirmed in their rank: Joseph H. Baird, Clive A. Whittingham, John Alston, George H. Rossdale, and Robert Taylor. Second Lieutenant Phillip Jacob Gaffikin, from Princess Victoria's (Royal Irish Fusiliers) Special Reserve, to be Lieutenant.

The undermentioned Cadets and ex-Cadets of the Officers Training Corps to be Lieutenants (on probation): Albert Edward Woolfe Sandelson, John McKerchar, Walter Armstrong Elliott, and Trevor Braby Heaton.

The undermentioned to be Lieutenants (on probation): Frank Hutchinson Kennedy, Hugh Cochrane Storrie, and Thomas Graham Shand.

TERRITORIAL FORCE.

Royal Army Medical Corps.

1st London (City of London) General Hospital: Lieutenant-Colonel Sir Anthony A. Bowlby, C.M.G., to be seconded.

2nd London (City of London) General Hospital: Lieutenant-Colonel George H. Makins is seconded. Major Charles W. M. Moullin to be Lieutenant-Colonel.

South Wales Mounted Brigade Field Ambulance: Herbert Massingberd Pentreath to be Lieutenant.

1st Highland Field Ambulance: Captain John Hector Stephen and Captain Cuthbert D. S. Agassiz, from Attached to Units other than Medical Units, to be Captains. To be Lieutenants: Lieutenant James A. Morris and Lieutenant James E. G. Thomson, from Attached to Units other than Medical Units; and Daniel McDonald Grant and James Stewart McConnachie.

2nd Highland Field Ambulance: Lieutenant-Colonel Francis Kelly, from the Highland Clearing Hospital, to be Lieutenant-Colonel. Captain David Rorie, from the Highland Clearing Hospital, to be Captain. Quartermaster and Honorary Lieutenant Alexander Gibbon, from the Highland Clearing Hospital, to be Quartermaster, with the honorary rank of Lieutenant. Lieutenant Charles Cameron to be Captain. Lieutenants James A. Stephen, Alexander C. Mallace, and George Henderson, from Attached to Units other than Medical Units, to be Lieutenants.

3rd Highland Field Ambulance: Edwin Archibald Bell to be Lieutenant. Lieutenant Edwin Archibald Bell to be Transport Officer. Herbert Stuart Cleghorn to be Quartermaster, with the honorary rank of Lieutenant.

1st East Anglian Field Ambulance: Francis Ward (late Surgeon-Captain, 1st Volunteer Battalion, Suffolk Regiment) to be Captain.

2nd South Midland Field Ambulance: Albert Edward Peel McConnell to be Lieutenant.

1st West Riding Field Ambulance: Captain Harry B. Sproat, from Attached to Units other than Medical Units, to be Captain.

3rd West Riding Field Ambulance: The under-mentioned Captains to be Majors: James Mackinnon, Ernest Frederick Finch, and Charles Graham Murray. Lieutenant William N. W. West-Watson, from Attached to Units other than Medical Units, to be Lieutenant.

Eastern Mounted Brigade Field Ambulance: John Morgan O'Meara to be Lieutenant.

1st Home Counties Field Ambulance: Captain Joseph Ward to be Major. Arthur Thomas Falwasser to be Captain.

2nd Home Counties Field Ambulance: Lieutenant Bernard R. Billings to be Captain.

1st East Lancashire Field Ambulance: Lieutenant (Transport Officer) George Robinson Wattleworth, from Manchester Companies, Royal Army Medical Corps (Volunteers), to be Transport Officer, with the honorary rank of Captain.

2nd East Lancashire Field Ambulance: Lieutenant (Transport Officer) Charles Gordon Stoddart, from the Manchester Companies, Royal Army Medical Corps (Volunteers), to be Transport Officer, with the honorary rank of Captain.

Wessex Clearing Hospital: Major Clarence I. Ellis to be Lieutenant-Colonel.

Highland Clearing Hospital: Lieutenant-Colonel Alexander Ogston, from the 2nd Highland Field Ambulance, to be Lieutenant-Colonel. Quartermaster and Honorary Lieutenant James M. Munro, from the 2nd Highland Field Ambulance, to be Quartermaster, with the honorary rank of Lieutenant.

2nd London Sanitary Company: Lieutenant Percy N. Cave to be Captain.

Attached to Units other than Medical Units.—Captain John E. Molson to be Major. To be Captains: Captain Francis W. Goodbody, from the 3rd London General Hospital; Lieutenant Lee D. B. Cogan; and Cecil Arthur Ensor. To be Lieutenants: Cresswell Burrows, Humphry John Wheeler (late Surgeon-Captain, 1st Buckinghamshire Rifle Volunteer Corps), Francis Ryalls Eddison, Robert Evelyn Tissington Tatlow, and Herbert Connop.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census, 8544 births and 4847 deaths were registered during the week ended Saturday, Oct. 10th. The annual rate of mortality in these towns, which in the three preceding weeks had been 15·1, 15·7, and 14·3 per 1000 of their aggregate population, estimated at 18,120,059 persons at the middle of this year, further declined to 13·9 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 13·2, against a corresponding rate of 13·3 per 1000 in London. Among the several towns the death-rate last week ranged from 3·2 in Acton, 5·1 in Enfield, 6·2 in Gloucester, 7·8 in Lincoln, and 8·0 in Ilford, to 19·4 in Liverpool, 19·9 in Great Yarmouth, 20·2 in Warrington, 20·5 in Gateshead, and 21·1 in Southport.

The 4847 deaths from all causes were 119 fewer than the number in the previous week, and included 710 which were referred to the principal epidemic diseases, against numbers declining from 1437 to 877 in the three preceding weeks. Of these 710 deaths, 485 resulted from infantile diarrhœal diseases, 73 from measles, 57 from diphtheria, 47 from whooping-cough, 31 from scarlet fever, and 17 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·0, against 2·5 per 1000 in the previous week. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 1223, 1004, and 651 in the three preceding weeks, further declined to 485, of which 123 were registered in London, 49 in Liverpool, 32 in Birmingham, 20 in Manchester, 19 in Sheffield, and 13 each in Stoke-on-Trent and Nottingham. The deaths referred to measles, which had been 64, 50, and 61 in the three preceding weeks, further increased to 73 last week, and included 24 in London, 5 each in Birmingham, Birkenhead, Liverpool, and Sheffield, and 3 each in Manchester and Newcastle-on-Tyne. The fatal cases of diphtheria, which had steadily increased from 31 to 63 in the eight preceding weeks, fell to 57 last week; 17 deaths occurred in London, 5 in Birmingham, 3 each in Liverpool, South Shields, and Cardiff, and 2 each in Tottenham, Wolverhampton, Burnley, and Middlesbrough. The deaths attributed to whooping-cough, which had been 50, 40, and 50 in the three preceding weeks, fell to 47 last week, and included 11 in London, 4 in Bristol, and 3 each in Bradford and Hull. The deaths referred to scarlet fever, which had been 27, 23, and 29 in the three preceding weeks, further rose to 31 last week, of which 4 were recorded in London, 3 each in Birmingham and Warrington, and 2 each in Manchester and Salford. The fatal cases of enteric fever, which had been 20, 16, and 23 in the three preceding weeks, fell to 17 last week, and included 2 each in London, Portsmouth, Warrington, Hull, and South Shields.

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had increased from 3071 to 4196 in the seven preceding weeks, had further increased to 4363 on Saturday last; 670 new cases were admitted during the week, against 551, 674, and 640 in the three preceding weeks. These hospitals also contained on Saturday last 1412 cases of diphtheria, 67 of enteric fever, 34 of whooping-cough, and 30 of measles, but not one of small-pox. The 1192 deaths from all causes in London were 99 fewer than the number in the previous week, and corresponded to an annual death-rate of 13·8 per 1000. The deaths referred to diseases of the respiratory system, which had been 110, 140, and 157 in the three preceding weeks, further rose to 175 in the week under notice, and were 52 above the number in the corresponding week of last year.

Of the 4847 deaths from all causes in the 97 towns, 169 resulted from various forms of violence, and 364 were the subject of coroners' inquests, while 1479 occurred in public institutions. The causes of 45, or 0·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Hull, and in 68 other smaller towns. Of the 45 uncertified causes of death, 9 were registered in Liverpool, 7 in Birmingham, 3 in St. Helens, and 2 each in London, Southend-on-Sea, Nottingham, Blackpool, Sunderland, and South Shields.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1228 births and 698 deaths were registered during the week ended Saturday, Oct. 10th. The annual rate of mortality in these towns, which had been 15·9, 16·3, and 15·6 per 1000 in the three preceding weeks, rose to 15·9 per 1000 in the week under notice. During the 13 weeks of last quarter the

mean annual death-rate in these towns averaged 14·4, against 13·2 per 1000 in the large English towns. Among the several towns the death-rate last week ranged from 10·2 in Kirkcaldy, 10·3 in Kilmarnock, and 11·0 in Falkirk, to 17·0 each in Paisley and Coatbridge, 18·6 in Aberdeen, and 20·7 each in Dundee and Greenock.

The 698 deaths from all causes were 11 in excess of the number in the previous week, and included 96 which were referred to the principal epidemic diseases, against 128 and 92 in the two preceding weeks. Of these 96 deaths, 54 resulted from infantile diarrhœal diseases, 14 from diphtheria, 13 from scarlet fever, 8 from whooping-cough, 6 from enteric fever, and 1 from measles, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·2, against 2·0 per 1000 in the 97 large English towns. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had declined from 101 to 52 in the four preceding weeks, slightly rose to 54 last week, and included 26 in Glasgow, 10 in Dundee, 4 in Edinburgh, 3 in Aberdeen, and 3 in Clydebank. The deaths referred to diphtheria, which had been 4, 9, and 9 in the three preceding weeks, further rose to 14, of which 4 occurred in Aberdeen, 3 in Glasgow, 3 in Edinburgh, and 2 in Paisley. The fatal cases of scarlet fever, which had been 6, 12, and 12 in the three preceding weeks, were 13 last week, and included 6 in Glasgow, 4 in Aberdeen, and 2 in Dundee. The deaths attributed to whooping-cough, which had been 8, 13, and 13 in the three preceding weeks, declined to 8 last week, of which 6 were recorded in Glasgow. The deaths referred to enteric fever, which had been 3, 4, and 4 in the three preceding weeks, further rose to 6 last week, and comprised 5 in Glasgow and 1 in Greenock. The fatal case of measles occurred in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 62, 64, and 71 in the three preceding weeks, further rose to 84 in the week under notice; 28 deaths resulted from various forms of violence, against 20 and 27 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,205,280 persons at the middle of this year, 630 births and 355 deaths were registered during the week ended Saturday, Oct. 10th. The annual rate of mortality in these towns, which had been 19·9, 19·2, and 17·3 per 1000 in the three preceding weeks, declined to 15·4 per 1000 in the week under notice. During the 13 weeks of last quarter the mean annual death-rate in these towns averaged 16·9, against corresponding rates of 13·2 and 14·4 per 1000 in the English and Scotch towns respectively. The annual death-rate last week was equal to 17·5 in Dublin (against 13·8 in London and 15·4 in Glasgow), 14·5 in Belfast, 12·9 in Cork, 12·7 in Londonderry, 21·7 in Limerick, and 22·8 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 12·3 per 1000.

The 355 deaths from all causes were 46 fewer than the number in the previous week, and included 53 which were referred to the principal epidemic diseases, against 92 and 53 in the two preceding weeks. Of these 53 deaths, 34 resulted from infantile diarrhœal diseases, 6 from whooping-cough, 6 from enteric fever, 4 from scarlet fever, and 3 from measles, but not one from small-pox or from diphtheria. The mean annual death-rate from these diseases was equal to 2·3, against 2·0 and 2·2 per 1000 in the English and Scotch towns respectively. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 74, 71, and 41 in the three preceding weeks, further fell to 34, of which 14 were recorded in Dublin and 10 in Belfast. The deaths referred to whooping-cough, which had been 4, 9, and 6 in the three preceding weeks, were again 6 last week, and comprised 4 in Belfast and 2 in Cork. The 6 fatal cases of enteric fever were double the weekly average recorded during last quarter, and included 2 in Dublin, 2 in Belfast, and 2 in Ballymena. The 4 deaths attributed to scarlet fever, comprising 2 in Belfast and 2 in Waterford, were slightly in excess of the average recorded last quarter. The 3 fatal cases of measles occurred in Belfast.

The deaths referred to diseases of the respiratory system, which had increased from 35 to 58 in the four preceding weeks, fell to 56 in the week under notice. Of the 355 deaths from all causes, 107, or 30 per cent., occurred in public institutions, and 10 resulted from different forms of violence. The causes of 10, or 2·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 English towns the proportion of uncertified causes of death last week did not exceed 0·9 per cent.

THE offices of the Medical Sickness, Annuity, and Life Assurance Society have been removed to larger premises at Lincoln House, 300, High Holborn, London, W.C.

THE BELGIAN REFUGEES: THE QUESTION OF THE PROFESSIONAL CLASSES.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

AT the offices of the War Refugees' Committee in Aldwych I was favoured at the beginning of the week with a long interview by Lord Gladstone, who, as treasurer of the fund, has been unremitting in his efforts to organise the relief of the expatriated Belgians. What this means may be judged from the fact that the committee has by this time received at least 200,000 letters. Of these 20,000 contain offers of hospitality, and highly trained clerks have been employed in the work of indexing and keeping in order this voluminous correspondence. The allotting of refugees to the families that offer hospitality is a very delicate and difficult matter. The committee had already arranged for the reception of 3500 refugees when the figure of arrivals began to attain to more than 300 per day. This meant an influx too great for the committee to cope with, and the Government consented to take the matter in hand. The Metropolitan Asylums Board was ready to relieve the Refugees' Committee of the task of providing shelter for the new arrivals. 500 beds, food, and the necessary staff of attendants were made ready at the Edmonton Workhouse, an abandoned building which has now been refitted. A few days later the Metropolitan Asylums Board had 5000 beds ready, and the number can be increased. The rapidity with which this work was done was due in a great measure to the untiring efforts, continued night and day, of Mr. T. Duncombe Mann, Mr. G. A. Powell, and Mr. Kelly, clerk and assistant clerks to the Metropolitan Asylums Board.

The Need of Further Aid.

But it has to be borne in mind that this great assistance given to the War Refugees' Committee only applied at first to those who arrived in a denuded condition. By the end of September 7779 such refugees had been received, and the immense majority were of the peasant or agricultural labouring class. By the end of the first week in October the figure had reached at least 10,000, and the class of people coming over had begun materially to change. With the fall of Antwerp and the general German occupation of Belgium the refugees are now far more numerous and belong to all grades. Professional men and the aristocratic classes are largely represented, while it is certain that hospitality will have to be found for at least 100,000 persons at once. On the position of some of the better-class refugees Lord Gladstone spoke to me very earnestly. An increasing proportion of the refugees are highly educated, refined gentlemen and ladies who held good positions in their own country. Some were professors at universities or school teachers, doctors of law or of medicine, landowners, business men, shopkeepers, and even large employers of labour. Yet many of them when they arrived were absolutely penniless, and for the time being at least were so cut off from their homes and usual pursuits that they could not get any money. It is not possible to send them to sleep on a straw mattress laid on the floor of an abandoned workhouse, and vast efforts at better accommodation must be made. It is true that bedsteads are now coming in at the rate of 1000

per week, and that the mattresses have no longer to be put on the bare floors, but the general arrangements necessarily remain rudimentary from the modern point of view. Among the recent refugees, for instance, there was a judge of the Belgian High Courts, and many similar cases have been discovered, but they cannot all be recognised, and we may be sure that some of our unfortunate guests are not getting the reception we should all wish to give them.

The better class refugees are sent to hotels, where special terms have been made by the committee, and they receive board and lodging for 4*s*. 6*d*. to 5*s*. per day. It is obvious, however, that there is a limit to the funds the Refugees' Committee has collected. The opinion of the hospitality offered by the British nation to the Belgian people will be formed by the educated classes and not by the poor peasants accustomed to hard circumstances in their living. For the latter something akin to workhouse accommodation may fairly suffice—it is all we can offer our own destitute; but the educated classes who are momentarily in the situation, financially speaking, of paupers are entitled to expect other treatment. We must all try to see that they get it.

An Appeal to Medical Practitioners.

In these circumstances the Government must raise the scale of money allowance granted per head when dealing with people who are not paupers but refugees. The nation, there can be no sort of doubt, is anxious that the very best should be done so that our brave allies, who have suffered so terribly for their loyalty to their guarantees, may feel thoroughly satisfied with what British hospitality can do, little as it must be in comparison to their gigantic losses and miseries. In this the members of the medical profession can render signal service in Lord Gladstone's opinion. They have so wide a circle of acquaintances that it would be comparatively easy for them to discover families willing and able to offer hospitality to the better class of refugees. Since the fall of Antwerp the latter have been arriving in great numbers. Some 25 interpreters are at the stations to meet them, but when several hundred refugees disembark simultaneously some perforce have to wait. Fortunately, at Charing Cross and Victoria stations special inquiry offices and waiting-rooms have been provided. A meal is procured by the committee's agents, or a night's lodging is given, or a railway ticket to join some friend who is expecting the wayfarers, but there is not money enough to continue such help indefinitely. That is why no time must be lost in sending in offers of hospitality. Even with such help the question arises whether the Government will not have to organise a refuge of a higher class than the Alexandra Palace or the discarded workhouses where some of the expected crowds may be sheltered on a collective plan.

The Metropolitan Asylums Board is looking after the poor very well, considering the immense difficulties of the task. The trouble now is in regard to the rapidly increasing flow of refugees belonging to the higher classes, who could well be entertained as guests by the similar class in this country. The medical practitioner is in a good position to know who would be able and willing to lend such aid, and should communicate any information that may be of service to the War Refugees' Committee in Aldwych.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Infant Mortality in Toronto.

THE Department of Health, Toronto, has inaugurated a Division of Child Hygiene with Dr. Alan Brown and Dr. George Campbell as directors. With a population of 510,000 Toronto has 10,960 children under 1 year of age and 21,070 under 2 years of age. To care for these in times of sickness there are the following institutions. The Hospital for Sick Children, with a capacity of 250 beds, the baby ward containing 30 cots. This hospital has a well-equipped pasteurising plant capable of dealing with 150 gallons a day. Seven milk depôts throughout the city receive their supply from this source. The Infants' Home and Infirmary takes care of destitute children. For the year ending Sept. 30th, 1913, this institution took care of 289, of which 76 babies died during that year. Infants are no longer cared for without their mothers. St. Vincent's Home cares for destitute foundlings and illegitimate children and has an average of 100 cases in residence. The Haven and Prison Gate Mission last year furnished accommodation for 61 infants, 58 being illegitimate. The Sacred Heart Orphanage has an average number of 200 inmates. There are 42 licensed baby homes and 12 maternity homes under the supervision of the Department of Health. Four of the public hospitals maintain maternity wards and 1260 children were born there during the past official year. Four visiting nursing agencies do the bulk of the obstetrical work of the city; there are eight day nurseries or *crèches;* eight agencies carrying on settlement work; two women's organisations provide an ice fund; numerous private organisations for food and clothing; while there are six local organisations coördinating these philanthropies and preventing overlapping. Within a few hours of the reporting of a birth in the city one of the public health nurses, of whom there are 31, visits the home and investigates the surroundings of the child. If a doctor is in attendance nothing further is done; otherwise the mother is directed to bring her baby to a "well-baby clinic," of which there are ten. The appointments to these are made by the professor of pædiatrics of the University of Toronto and the medical officer of health. In 1915 it is expected to increase the number of these to 25, as it has been found essential to have one of these clinics to every 20,000 of the population. The Toronto Ferry Company supplies a floating sanatorium, and about 300 babies and mothers are taken out on each trip. A wet-nurse bureau is being established in connexion with the Division of Child Hygiene. In 1897, with a total population of 197,000, the infant mortality under 1 year from all causes was 664; in 1913, 1877.

The Prevention of Tuberculosis in Nova Scotia.

The Provincial Sanatorium at Kentville, Nova Scotia, is for early pulmonary tuberculosis cases and was established by the Government of that province in 1904. A weekly fee of $5 must be paid in advance. The balance to maintain the institution comes from governmental aid. Dr. A. F. Miller, the medical superintendent, in his ninth annual report states that during the hospital year ending Sept. 30th, 1913, there were 64 applications for admission, and of these 38 were accepted. At discharge 23 of these cases were

apparently cured, 11 arrested, 2 improved, 2 only failing to respond to treatment. Two extra pavilions were added in the year with accommodation in each for 16 patients. Accurate records have been kept since 1910. Since that time 94 patients have received treatment; 59 of these are now working and well, 19 not working, 15 dead, and the condition of 1 unknown. There is great need in the province for free hospitals to which needy patients may go. The institution aims to help in the diagnosis of all cases in that province.

Toronto, Sept. 5th.

Correspondence.

"Audi alteram partem."

THE GOVERNMENT GRANTS FOR MATERNITY AND CHILD WELFARE.

To the Editor of THE LANCET.

SIR,—Your leading article of Sept. 26th has drawn attention to the admirable scheme of the Local Government Board as regards "Maternity and Child Welfare" issued as a memorandum last July. Its object is to link together the existing organisations and to organise new ones dealing with these subjects. Arrangements are to be made for: (1) Efficient *antenatal* advice and treatment by antenatal clinics, home visiting, and pre-maternity beds or wards; (2) for skilled attendance upon women during their confinements, and expert hospital treatment for parturient women with contracted pelves and other abnormalities or diseases; and (3) for treatment of mother and child after parturition, and subsequent systematic advice and treatment for infants and older children at suitable clinics or dispensaries, and by home visiting.

It will not be easy to link together all these agencies into a smooth efficient working scheme, but as the whole nation seems now alive to the value of infantile life and maternal welfare I feel sure it will eventually be accomplished.

To enable local authorities to form and extend the necessary organisations, the Local Government Board propose to give grants up to 50 per cent. of the approved expenditure of the more clinical and medical portions of the scheme, and similar grants from the Board of Education will be forthcoming for approved instruction, such as can be given on general lines in "schools for mothers," home visits, and by other kindred agencies. Personally, I see no reason why a hospital should not apply for a grant in aid of the expenses involved in the formation or extension of a definite antenatal clinic and laboratory with pre-maternity beds, for beyond the approval of the Local Government Board it would not involve, as I understand the scheme, any State supervision or control.

"Schools for mothers" will be developed through voluntary agencies or by local health authorities, and pregnant women will be there generally instructed in antenatal and natal hygiene, and if in any way thought to require help would be advised to consult either local practitioners of their own choice at an adjacent "maternity centre" or go to an antenatal clinic at a convenient general or lying-in hospital.

It is here where I think obstetricians all over the country can usefully help to make this scheme a success, whether they apply for the Government grant or not. At every such hospital where maternity cases are registered for attendance, an antenatal clinic is practically in existence, and has only to be extended to make its presence of immense service, not only to the women and unborn infants, but also to the students attending the clinics. Every such clinic should be in touch with a well-equipped laboratory. In such a clinic students would be taught how to recognise early toxæmia by urine testing and by clinical evidences, and they would be instructed in abdominal palpation and auscultation and the detection of pelvic abnormalities, and would learn the prophylaxis and treatment of the toxæmias and other complications of pregnancy.

Pregnant women in the general wards or in other out-patient departments of the hospital, with varied medical or surgical complications, could be notified to or transferred to the antenatal clinic, and a great mass of useful knowledge thus obtained. Occasional lectures could also be given. In some hospitals all this is already being done. In others, women are registered by the resident accoucheur, and but little effort is made to instruct students in a department of medicine now recognised to be of the greatest importance. Such a clinic should be distinct from the ordinary gynæcological out-patient department, so that students may realise that it is a special branch of study, and worthy of being treated as such, and the patients themselves would be in greater comfort and privacy.

This is the first time that any Government body has taken up the question of antenatal hygiene, and as it is the direct result of the importance now attached to the subject by medical men we should give it every support.

I am, Sir, yours faithfully,

AMAND ROUTH, M.D. Lond., F.R.C.P. Lond.

Manchester-square, W., Oct. 13th, 1914.

THE TREATMENT OF TETANUS.

To the Editor of THE LANCET.

SIR,—At a time when, unfortunately, tetanus is so common amongst those returning wounded from the front it seems advisable to direct attention to a form of treatment successfully employed by Mr. Oliver Atkey in a severe case at Khartoum. His paper appeared in THE LANCET of Jan. 18th, 1913, and the method consisted in producing general anæsthesia by the intravenous injection of a mixture of ether and paraldehyde given in normal saline solution. It was based upon the work of Noel and Souttar as regards the production of general anæsthesia. Their results will be found recorded in a paper published in THE LANCET of Sept. 21st, 1912.

I remember that in Mr. Atkey's case the tetanus bacillus was found, so that there can be no doubt as to the diagnosis, although, as a matter of fact, this presented no difficulties, for the case was a typical one. The initial dose was 5 c.c. of each drug in 150 c.c. normal saline, but this was increased later to 15 c.c. of ether and paraldehyde respectively, repeated from time to time. Mr. Atkey states that if he had another case to treat he would give larger doses. Considerable quantities of normal salt solution were also infused in order to rid the system as far as possible of the tetanus toxin.

Of course in tetanus antitoxin is our sheet anchor, but it is not always available, and very

often it cannot be given in time. It therefore seems to me that Mr. Atkey's method merits a trial. It could conceivably be employed along with serum injections, but in the light of recent work by von Graff-Menochikoff this is open to doubt. It seems fairly free from danger, pulmonary œdema being the complication which has to be feared, but in tetanus one must take risks, for, as a rule, an untreated patient has little chance of recovery.

Mr. Atkey claims the following advantages for his method: 1. Very rapid anæsthesia. 2. The production of hypnosis as well as anæsthesia. The patient's strength is husbanded, pain is greatly lessened, and time is afforded for the absorption of nourishment and the employment of such other remedial measures as may suggest themselves. For similar reasons hedonal might be found useful. So far as I know it has never been employed in tetanus. Possibly, however, ether and paraldehyde are safer, though hedonal anæsthetisation has its advocates, and it certainly produces a marked muscular relaxation.

I am, Sir, yours faithfully,

Henrietta-street, W., Oct. 9th, 1914. ANDREW BALFOUR.

THE PREVENTION OF TETANUS.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Oct. 3rd, p. 861, occurs a statement that cannot pass without comment. The statement is that the use of antitetanic serum "as a prophylactic remains yet to be more conclusively established." But its efficiency as a prophylactic has assuredly already been conclusively established. I am certain that if every wounded soldier collected by our ambulances received a prophylactic injection within 24 or 48 hours of the receipt of his wound we would not have a single case of tetanus. Instead of that we have the mortification of seeing reports of such cases each week. The evidence will be found in many experiments recorded. I need only mention two.

1. A horse infected with tetanus by Mohler and Eichorn died from tetanus within nine days. Of seven other horses infected at the same time with the same dose, and given antitetanic serum from 48 to 96 hours afterwards, not one died; two developed symptoms of tetanus but recovered. "From the results of these investigations it may therefore be concluded that 500 American units is a sufficient dose of antitoxin for use as a prophylactic even in cases where the infection has occurred four days prior to the injection of antitoxin."

2. In America, as a result of wounds received from explosions of fireworks during the "4th of July" celebrations, many cases of tetanus used to occur every year. In 1903, the first year when a strong effort was made to secure complete statistics, 406 deaths from tetanus occurred. The American Medical Association through its journal then started a campaign impressing on medical men the necessity of the prophylactic use of antitetanic serum in every case of burns and wounds. The cases have gradually dropped each year until in 1912 only six deaths occurred. The editor of the journal says: "We have made extensive inquiries into the treatment received by those injured in the '4th of July' accidents, and have yet to learn of a single case in which tetanus developed in a person who had early received a prophylactic dose of antitoxin." I am, Sir, yours faithfully,

Oct. 6th, 1914. A. T.

IMPERFECTIONS IN THE CUMBERLAND INFIRMARY.

To the Editor of THE LANCET.

SIR,—It is not apparent why Mr. H. A. Lediard, the senior surgeon, should have written the letter published in THE LANCET of Oct. 10th. My report on the Cumberland Infirmary relates mainly to administrative and domestic matters and only indirectly, if at all, to things medical. Hence the theatre, though not overlooked, claimed no special mention.

It is impossible for anyone to understand the questions raised unless my original report[1] is before them. That report was written as the result of requests made to me in August and October, 1909, by the chairman of committee and by an eminent member of the honorary medical staff. The latter enclosed in his letter a block plan of the whole of the infirmary, including the new extensions then in progress. It was not possible to comply with the request made earlier than June 20th last. I have always been interested in the welfare of the Cumberland Infirmary, having known several of its officers who have made high reputations and have risen to important positions in the hospital world. This feeling, and the letters just referred to, made me if possible more than usually anxious to make my report contribute to the bringing up of this important institution to the standard of an up-to-date modern hospital. I pointed out that "structurally the institution has been transformed for the better," but "administratively it has been changed sadly for the worse." That is what I found in the fewest possible words.

I have felt it to be a public duty to raise the following pertinent questions which go to the root of the matter. Has the personnel or character of the committee changed materially during the period in question? Has there been a gradual elimination of the former principles which led some of the most distinguished residents within the county to take an active part in the management? Has there been substituted for this element a large and increasing number of less responsible persons who have narrower views and are inclined to run the institution more on a sectarian or narrow basis? Is there an influence in the hospital which has been gradually acquired over all the departments by some one who has not a large and generous spirit, and who may, from many years' association, have got the affairs of this institution too much into his own hands? It remains to be seen whether the committee and governors of the Cumberland Infirmary will unite in an effort to make the administration of the infirmary up to date and smartly efficient.

In my report I suggested there was urgent need for an independent investigation at Carlisle, and the letter from Mr. Lediard confirms the practical value of this recommendation. There is evidence that Mr. Lediard and the infirmary authorities do not appreciate the responsibility of providing adequate recreation-room accommodation for the large staff of laundry-maids they employ. Further, that they do not realise the effects of the working of the present system of administration, which I emphasised and have good grounds to condemn. The question of a garden, and all I urged in regard to it, are not matters of appreciable cost but of sound management, and point to lost opportunities for expediting

[1] See The Hospital, Sept. 19th, 1914, p. 677.

the recovery of the patients. The Cumberland Infirmary contains 140 beds, and Mr. Lediard's description of it as "a small provincial hospital" is, therefore, inaccurate. My criticisms rest upon the standard attained by a modern up-to-date hospital, whilst Mr. Lediard appears to be content with something infinitely inferior to it.

Mr. Lediard's letter is no answer to my report. He accuses me of "certain inaccuracies which mar the trustworthiness of his [my] statements," to wit, that the reconstruction has included (1) a new ophthalmoscopic room and (2) a new clinical room for ward work. He describes the former as a completely equipped ophthalmic department, and declares the latter has not yet been acquired. I must remind Mr. Lediard that the lithograph plan supplied to me from the infirmary contains the additions and alterations signed by the architect, and states on its face that these include D, a new clinical room, and K, a new ophthalmoscopic room. The inaccuracies, if inaccuracies there be, are therefore not mine, and if they mar the trustworthiness of any statements, as Mr. Lediard declares, they cannot be the statements in my report.

For the rest Mr. Lediard ignores the pertinent questions which my report contained, and contents himself by writing at length and at large in the apparent attempt to draw a herring across the scent. He declares and continuously insists that "we know how to adapt our expenditure to our means," an assertion which, for reasons set forth clearly in my report, I beg leave to question. He has evidently to learn, with others, the importance in hospital administration to remember "there is that spendeth and yet increaseth."

In endeavouring to secure a thorough and impartial inquiry in the best interests of the future of Cumberland Infirmary I am handicapped by the apparent general apathy, due possibly to the absence of a local daily newspaper. Mr. Lediard inferentially implies that I have attacked the committee of management, and have found something wrong with the matron, Miss Sylvia Parker. So far from attacking the committee, I have merely urged them to make certain changes in the internal management, and to take steps to secure an independent report by a hospital expert of wide experience. Miss Sylvia Parker has had a most difficult task, and has shown much devotion in her efforts to secure good management under conditions which I venture to think ought never to have existed. They, too, should have been removed before she entered upon her office.

For the rest I commend the present administrative working of the Cumberland Infirmary to the attention of the governors and the committee of management, with the expression of an earnest hope that they will adopt the course recommended in my report, because it should result in increasing the infirmary's resources and bringing its administration in future nearer to the standard of a modern up-to-date hospital.

I am, Sir, yours faithfully,

HENRY C. BURDETT.

Porchester-square, W., Oct. 10th, 1914.

To the Editor of THE LANCET.

SIR,—Sir Henry Burdett seems to have been invited by the chairman of committee and by an eminent member of the honorary medical staff to visit and report on the condition of the Cumberland Infirmary in the year 1909. I raise no objection to this desire for an outside opinion, but some astonishment must have been occasioned when Sir Henry Burdett, like Balaam, does exactly the opposite of what was expected of him: "I called thee to curse mine enemies, and behold, thou hast altogether blessed them these three times." No doubt Sir Henry Burdett's report of the unsatisfactory state of the Cumberland Infirmary has been somewhat disappointing to whoever gave him the invitation.

"It remains to be seen whether the committee and governors of the Cumberland Infirmary will unite to make the administration of the infirmary up to date and smartly efficient," says Sir Henry Burdett on Oct. 10th in the *Hospital*, and so it would seem that the administration is the real point of attack after all, and why does not Sir Henry Burdett leave innuendoes and boldly state what he believes to be wrong? He now tries to whitewash the committee of management and declares that the matron, Miss Sylvia Parker, is worthy of his approval, but what is the "internal management" which "ought never to have existed" and "should have been removed before she entered upon her office"?

I never heard that Miss Sylvia Parker had been hampered by any "internal management"; in fact, I can assure Sir Henry Burdett that there is more harmony and less friction in the Cumberland Infirmary since Miss Sylvia Parker became matron three years ago than there had been for many years previously. Who is the individual aimed at who has "got the affairs of this institution too much into his own hands?" asks Sir Henry Burdett, and I ask Sir Henry Burdett to be frank and say whether or no he does or does not attack the secretary. I can assure Sir Henry Burdett that he has been misled and that the secretary enjoys the full confidence of the committee and has in no way "got the affairs of the institution too much into his own hands." I think that Sir Henry Burdett, if he is attacking the secretary, is sailing a bit near the wind for his own safety, and it appears with absolute clearness that his remarks are resting upon information supplied to him by someone who has an axe to grind.

For his second report in the *Hospital*, Oct. 10th, Sir Henry Burdett remarks: "There is evidence that Dr. Lediard and the infirmary authorities do not appreciate the responsibility of providing adequate recreation-room accommodation for the large staff of laundrymaids they employ." I desire, without any boast, to point out that I raised the question of the need of placing the kitchen and wardmaids above ground instead of their subterranean sleeping-rooms when there was a discussion at the Carlisle Town Hall over the building scheme then in prospect, and I am no less interested in provision being made for our four laundrymaids. Sir Henry Burdett's idea of a large staff of laundrymaids seems to amount to four persons. I have inspected the room the four laundrymaids have for a sitting-room and find it small but adequate so long as it is not invaded by any more.

Sir Henry Burdett objects to my considering the Cumberland Infirmary a "small provincial hospital," and in his report of Sept. 19th he credits us with having 150 beds, but in his Oct. 10th report he drops down to 140 beds, and even then he is in error. There are 100 beds in the hospital in use and have been in use since 1875, but the extensions and ward building recently completed was planned for 130 beds. In spite of the show we have made there are 30 beds still vacant because we have insufficient funds to allow of their being

occupied except in an emergency, and these vacant 30 beds have been offered for wounded or sick men from the front by the Red Cross people to the War Office. No one "in the know" can complain that there has been any marked economy in the construction of the new building recently erected, for the palatial dining-room for nurses, the library and vast drawing-room, to say nothing of a large glass-roofed conservatory—all reminding one of a modern hotel—to be found in the nurses' quarters, indicated that expenditure has been lavish; at any rate, it has been so in my opinion.

With regard to Sir Henry Burdett's statement that "a new clinical room to each ward" had been provided, I acquit him of the error, because it was supplied to him on the plan sent to him from the infirmary, but had he been as familiar with the working of a provincial hospital as he would have us believe, he would have recognised the absurdity of a "clinical room to each ward."

There is one passage in Sir Henry Burdett's reply of Oct. 10th which is beyond my comprehension. He says: "I am handicapped by the apparent general apathy, due possibly to the absence of a local daily newspaper." How can the presence or absence of a local daily newspaper influence the "apparent general apathy"? Probably a well-conducted local daily newspaper is an advantage everywhere, but even newspaper proprietors, like hospital managers, are subject to funds for carrying on their business, and if the apathy in the Cumberland Infirmary is to depend "possibly on the absence of a local daily newspaper," I fear we shall be apathetic for many years to come.

Sir Henry Burdett's standard of a modern up-to-date hospital is quite a pleasing one, and includes a series of articles which he considers we now want. Flock pillows are bad, books with readable type needed, a view room in the mortuary, teak floors disappointing, central fireplaces consuming too much coal, &c. These items are not worthy of controversy, but they show how much detail came under Sir Henry Burdett's eye. Does Sir Henry Burdett know that teak is a wood obtained from Burma and has a superior resistance to insect life? Did Sir Henry Burdett actually see the two stoves at work which he complains of as being cheerless and affording insufficient heat? As to a "view room" in the mortuary, which place he thinks has been "erected on a defective plan," what is a "view room"? Perhaps Sir Henry Burdett will instruct me.

If left to himself I feel sure that Sir Henry Burdett means well and is sincere in his desire for improvement in the Cumberland Infirmary, but when he begins to talk about "something wrong somewhere," "little or no spirit or life in the place," "diminished efficiency," and the like hasty deductions, a doubt arises as to his whole report of Sept. 19th. I grant that I have much to learn and will gladly learn from Sir Henry Burdett, but he must write in a different spirit, and report trustworthily, before I can sit at his feet and gather information of the royal road to hospital management, and when he makes himself the mouthpiece of what he has picked up outside the Cumberland Infirmary he damages any reputation he may have for accuracy and good judgment.

I am, Sir, yours faithfully,

Carlisle, Oct. 12th, 191 . H. A. LEDIARD.

*** Mr. Lediard's letter is written in answer to a statement in the *Hospital* of Oct. 10th, which is substantially reproduced in Sir Henry Burdett's letter above.—ED. L.

THE DRUG STROPHANTHUS AND THE NEW PHARMACOPŒIA.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Oct. 10th, p. 901, attention was called to the alterations in strength of various important preparations, including tincture of strophanthus, in the new Pharmacopœia. The change in this preparation is, however, so drastic, and may have such far-reaching effect, that I feel it requires more extended comment. Strophanthus has been well-known as a powerful remedy in heart affections ever since its introduction into European medicine by Professor Sir T. R. Fraser, and because of its potency it has long been desired that some method of assay and standardisation should be evolved.

Hitherto, however, chemists have been unable to formulate any satisfactory process of evaluation, based on chemical constituents, and recourse has been perforce made to pharmacological tests in physiological laboratories. These were first prominently formulated in a paper read before the British Pharmaceutical Conference at Brighton by Dr. W. E. Dixon in 1905, and the standard set up by him was that "a quarter of a minim of the tincture of strophanthus of the 1898 Pharmacopœia, which has a strength of 1 part of the drug in 40, should be sufficient to arrest the heart in systole of a frog weighing 20 grammes in about one hour." Dr. Dixon expressed the opinion that to meet this standard the tincture of the 1898 Pharmacopœia would have to be diluted, although it was only (approximately) half the strength prescribed in the 1890 Additions to the 1885 Pharmacopœia. Records of experiments spread over some years past, which I have before me, confirm this view, as a clear majority of a number of samples made in accordance with the Pharmacopœia have shown nearly double the potency specified by Dr. Dixon as the desirable standard when tested pharmacologically on frogs. It was, therefore, highly desirable that, when an opportunity of revision occurred, the strength of the tincture should be reduced; but, on the contrary, the Pharmacopœia Committee of the General Medical Council, following the provisions of the international agreement which was signed at Brussels on Nov. 29th, 1906, and which appears to have been based on a slavish adherence to the decimal system rather than on any therapeutic considerations or clinical experience, has increased the strength of the tincture four-fold, making it now 1 in 10 instead of 1 in 40, which, as is shown above, already erred on the side of excessive potency. It is true that at the same time the official dose has been reduced from 5 to 15 minims to 2 to 5 minims, but, as was pointed out last week, the pharmacopœial doses are not in any way binding.

As regards the legal position, it is now well established that the Pharmacopœia is a presumptive standard of strength for all preparations named therein. On and after Dec. 31st next it will be incumbent on all pharmacists to dispense, when tincture of strophanthus is prescribed, the preparation of the new Pharmacopœia, which will doubtless be in many cases four times as powerful and toxic as the writer of the prescription intended.

A very anomalous position will thus be created, involving, not only the throwing of an unfair burden of responsibility upon pharmacists, but also endangering the health and it may be the lives of

patients. Although the Pharmacopœia has, I understand, been passed for the press the editors have expressed a desire to be informed of any typographical or other errors which may be discovered by those who have been favoured with a view of advance copies, and it is with the hope that it may not be too late to correct what would seem to be a grave error of judgment that I write this note.

I am, Sir, yours faithfully,

H. WIPPELL GADD, F.C.S.,
Barrister-at-Law; Author of "A Synopsis of the British Pharmacopœia," &c.

Exeter, Oct. 10th, 1914.

CHANGES INDUCED IN BLOOD BY FEEDING.

To the Editor of THE LANCET.

SIR,—My attention having been drawn to the article on sanatogen in the *Journal of the American Medical Association* of Sept. 26th, 1914, p. 1127, I wish to point out that in the paper by Dr. Gage and myself in THE LANCET of Oct. 19th, 1912, the essential point was that the nuclei of nucleated blood corpuscles behave in the same way as do the nuclei of insectivorous plants and also the nuclei of the most diverse other tissue constituents when they are fed on proteins. It is very gratifying that so eminent a physiologist as Professor Carlson should have completely confirmed these changes in the nuclei, although he is unwilling to adopt as yet our explanation. It is regrettable, however, that Professor Carlson should have overlooked the following sentence in our original paper: "Since previous experiments have shown that nuclear changes are produced under normal conditions only by the protein foods and not carbohydrates and fats, we decided on choosing a very concentrated purin-free protein such as caseinogen." If Professor Carlson had not overlooked this sentence it would not have come as a surprise to him that feeding with "sanatogen, milk, crackers, casein, and casein and sodium glycerophosphate" produces the same result. Here again is a complete confirmation of our work, as all these preparations, including the crackers, contain protein. In conclusion, we want to reiterate the statement that we still hold milk proteins free from fat and sugar to be the ideal food for mammals whenever quick recuperation is called for.

The attack on your valuable paper is so scurrilous as to need no comment.

I am, Sir, yours faithfully,

GUSTAV MANN,
Professor of Physiology.

Tulane University of Louisiana, New Orleans, La., Sept. 28th, 1914.

PEDICULOSIS OF THE SCALP AND EYE DISEASE.

To the Editor of THE LANCET.

SIR,—May I call attention through your columns to an important, but I believe not sufficiently recognised, point in combating a form of eye disease which is exceedingly prevalent amongst children of the Board School class? I refer to the so-called phlyctenular keratitis, a disease which is responsible not only for much immediate suffering, but also for the most deplorable sequelæ in the form of visual disabilities resulting from corneal scars.

Methodical examination has convinced me that in the majority of the more severe examples of this condition the factor primarily responsible is a pediculosis of the scalp, the ocular affection owing its origin to a transference, in all probability by the fingers, of infective material from the scalp to the eyes. Nobody who has investigated the point in a series of cases can fail to recognise the intimate relationship between these two affections, or to be impressed time after time on the one hand by the beneficial effect upon the eye condition of treatment directed to the scalp, and on the other hand by the inadequacy of such ocular treatment as does not take cognizance of this relationship.

These considerations, apart from any others, appear to me to afford an urgent indication for the frequent periodical examination of the heads of all school children, followed when necessary by appropriate treatment, and facilitated by a regulation that, in the case of boys at any rate, the hair must be kept cropped close to the scalp. I am convinced that such a procedure would obviate much suffering and severe injury to sight, and would thus be justified not only on humanitarian but also on economical grounds.

I am, Sir, yours faithfully,

A. C. HUDSON.

Oct. 6th, 1914.

ALPINE TREATMENT FOR THE COMING WINTER.

To the Editor of THE LANCET.

SIR,—I should be glad of the hospitality of your columns to correct a widespread impression amongst the medical profession in Great Britain that the Alps are not available during the coming winter as a health resort for British subjects. As far as this town is concerned the conditions have scarcely been changed at all by the war. The various hotels and pensions are with slight exception open and charging their usual prices. The local authority is prepared to guarantee that there will be no shortage of food supplies or of fuel, and the deficiency of horses due to the mobilisation has been rendered of no importance by the opening of the electric railway from Coire. Arosa has long been the Alpine resort in Switzerland with the largest proportion of English visitors, thus ensuring the safeguarding of their interests at a time when national feeling runs strong. There is perhaps a special reason that British visitors whose health makes it desirable for them to spend the winter here should make a point of doing so this winter in order that the pleasant traditions of the British colony may not be lost for future years.

The journey should not constitute a difficulty, even assuming that the usual route remains unavailable. Messrs. Thomas Cook and Sons in London have the matter in hand and are prepared to advise as to what route is available at a particular time. There is now a regular service of boats to Bordeaux, whence the journey to Geneva lies quite outside the zone of warfare; or France may be avoided altogether by the sea route to Genoa and thence by Milan and the St. Gothard.

I am, Sir, yours faithfully,

EGBERT MORLAND.

Arosa, Switzerland, Oct. 1st, 1914.

IONISATION FOR BILHARZIASIS.

To the Editor of THE LANCET.

SIR,—As the condition of vesical and rectal bilharziasis is so intractable and virtually unaffected by any generally practised treatment, anything promising relief from this troublesome condition is to be welcomed. Owing to the embedded situation of the parasite and consequent difficulty of penetration of efficacious therapeutic agents that will not by reason of their potency at

the same time prove harmful to the mucous membranes, it is not surprising that here, as in the somewhat analogous case of ringworm, the results of ordinary treatment are so hopelessly disappointing. By the modern device of causing chemical penetration through the agency of the constant current I would suggest that a valuable and satisfactory means may hereby present itself for dealing with bilharzial infections by means of ionisation, and I think this procedure might be given a fair and extended trial in this condition. The ionising fluid having been introduced into the bladder or rectum and a suitably insulated electrode inserted, the ordinary technique is employed. The results of ionisation for ringworm are also likely to improve so much with the advance of technique as to cause this method ultimately to supplant all others.

I am, Sir, yours faithfully,

G. S. THOMPSON, F.R.C.S. Eng.

Kimberley, South Africa, Sept. 12th, 1914.

OSTEO-ARTHRITIS OF THE HIP-JOINT.

To the Editor of THE LANCET.

SIR,—I am very unwilling to trouble you further on the personal matter of the views I have expressed as to the connexion between the term "sciatica" as ordinarily understood and osteo-arthritis of the hip-joint. In my "study" of the disease a reference to the appendix will show that in my experience the vast majority of the cases there detailed proved the presence of "trouble" in the hip-joint. Given such trouble of a gouty nature I further ventured to suggest that in certain neglected individuals the result was an osteo-arthritis. Dr. Jones and Dr. Llewellyn have found in another set of cases trouble in the joint associated with pain along the anterior crural and obturator nerves. I have again to say their observations constitute a strong and additional reason for the careful examination of the articulation.

I am, Sir, yours faithfully,

Dingwall, Oct. 6th, 1914. WILLIAM BRUCE.

To the Editor of THE LANCET.

SIR,—The recent paper on osteo-arthritis of the hip by Dr. R. Ll. J. Llewellyn and Dr. A. Bassett Jones and the resulting correspondence deal with some extremely important and debatable problems. Few will agree with Dr. W. Bruce's view that sciatica is practically always due to osteo-arthritic changes in the hip-joint. Personally in examining a patient with definite sciatic pain the hip-joint is not uppermost in my mind, although as a routine this joint is examined. There are many far more common causes of sciatica than the above-mentioned lesion. Primary sciatica I believe to be extremely rare. Dr. Llewellyn and Dr. Bassett Jones, on the contrary, hold that gouty sciatica is a common primary form. In most cases sciatic pain occurring in individuals with definite gouty lesions, or with vague manifestions of the gouty diathesis, can be explained on static grounds. True sciatic neuritis dependent on microbic infection such as the streptococcus rheumaticus is occasionally seen and can be correctly designated as primary sciatica. The bulk of the cases, however, are secondary in origin, lesions of the spine, spinal cord and meninges, pelvic viscera, and static defects accounting for the majority.

Lesions of the sacro-iliac joint are well recognised as competent causes of sciatic pain, but there is still a great deal of confusion as to the exact type of lesion present. In this controversial subject I have taken a great deal of interest, as during last winter I had a unique opportunity of investigating a series of such cases in the Orthopædic Clinic of the Massachusetts General Hospital, Boston, a clinic which is the home of sacro-iliac affections. Since the original paper of Goldthwait and Osgood in 1905, cases presenting certain features have been indiscriminately called sacro-iliac relaxation, strain, or displacement. Dr. Llewellyn and Dr. Bassett Jones evidently recognise the existence of relaxation of the sacro-iliac joints. In a communication in the *Boston Medical and Surgical Journal* of June 25th, 1914, and in another paper shortly to be published in the *Medical Chronicle* I have discussed the evidence for and against sacro-iliac relaxation as an entity.

Professor Lovett, of Boston, has recently considered this question, and has expressed views contrary to those generally accepted. Briefly the position at present is as follows. Of cases manifesting the sacro-iliac syndrome, of which lumbago and sciatica are prominent features, a certain proportion are due to traumatic strain of the sacro-iliac joint, a condition seen most frequently in the male sex. The remaining cases in which injury has played no part are to be classed as static postural defects, or what Lovett calls defective balance. In all of these an obvious bad body poise is present with a shifting forward of the centre of gravity of the body. Excessive strain is thrown on to the posterior musculature of the spine and lower limbs, a strain which manifests itself in pain and tenderness at ligamentous insertions; that is lumbago and sciatica. The direct treatment of the postural defect relieves the sciatica. There can be no doubt that sacro-iliac relaxations are practically non-existent; in the male sex such a condition is an anatomical impossibility. I feel sure that gouty sciatica is static in origin in the majority of instances. Osteo-arthritis of the lumbar spine is a not infrequent cause of sciatic pain, unilateral or bilateral; this lesion accounts for a considerable proportion of cases of so-called sciatic scoliosis. Amongst the many other causes of secondary sciatica spinal cord tumours and chronic spinal meningitis are noteworthy, as they are usually diagnosed late. The possibility of these two lesions should always be borne in mind.

In conclusion, there is one other point in Dr. Llewellyn and Dr. Bassett Jones's paper which invites discussion. The authors state that in the later stages of osteo-arthritis of the hip-joint treatment is of little avail. This is hardly in keeping with modern surgical advances. There are two procedures which give excellent results in selected cases—(1) the operation cheilotomy, and (2) arthrodesis. The former operation is satisfactory in cases where the osteophytes are responsible for most of the pain and crippling. Arthrodesis is particularly indicated in a younger individual in whom a painless stable joint will enable the patient to continue his occupation. The technique devised by Albee, of New York, is generally followed, the limb being fixed in full abduction until bony union is attained.

I am, Sir, yours faithfully,

HARRY PLATT, M.S. Lond., F.R.C.S. Eng.

Manchester, Sept. 28th, 1914.

THUCYDIDES ON THE PLAGUE AT ATHENS.

To the Editor of THE LANCET.

SIR,—In your review of Dr. Raymond Crawfurd's book "Plague and Pestilence in Literature and Art" in THE LANCET of July 4th I note with interest that he holds the view that the disease described by Thucydides[1] as "plague" was really typhus fever. I think that a few extracts from the Greek historian's lurid description should be sufficient to prove the soundness of Dr. Crawfurd's conclusion.

It matters little whether so obscure an individual as myself agrees with or differs from so eminent a classical scholar as Dr. Crawfurd, but it may interest him to know that even in isolated spots in South Africa may be found some who appreciate his services to the historical side of medicine. I came to the conclusion many years ago that the disease described by Thucydides was really typhus fever; but I refrained from raising the question in your columns—though I often thought of doing so—for the simple reason that, remote as I am, and have been for many years, from good libraries, it might have seemed presumptuous on my part to offer an opinion one way or other on a subject which I assumed had been decided by scholars long ago. It should seem, however, from your review that this is not the case; and it is certainly matter for astonishment to me that any medical reader of Thucydides should be in doubt as to the nature of the disease he describes under the name of "plague." As a record of disease emanating from remote antiquity, and written by one who suffered from it himself—"the greatest historian that ever lived," as Macaulay styles him—it must always possess an abiding interest, at least for those to whom the large memories of the Hellenic past make any appeal. Nor will the interpretations of modern science—beyond changing the name of the disease—do particular violence to the historian's reputation for accuracy as to statements of fact. In setting forth my reasons for supporting Dr. Crawfurd's view I may also state the circumstances under which this subject first aroused my special interest.

Some 13 years ago, whilst attached to the South African Field Force, I often found myself compelled to extract what comfort I could from a very limited library. Amongst my books was a copy of Thucydides. The monotony of veld life forced me into communion with this ancient friend, as "something craggy to break my mind against"—to use Byron's metaphor.

I need not pretend that I found the text which alienated Porson, perplexed Arnold, and evoked Macaulay's admiring despair, a source of unmingled happiness. Too often I had to leave the great Athenian alone with his peculiar glory of self-repression and obscurity of phrase. Enough, however, remained to come within the scope of my powers, and of that the description of the plague at Athens claimed my particular attention. In an article written by me then and published in your columns[2] I made a passing reference to the subject, but there I left it, as it was foreign to the matter under discussion.

Now, taking a few of the symptoms of typhus fever as described in a modern text-book of medicine—such as, for instance, pyrexia, headache, injected conjunctivæ, vomiting, bronchial catarrh, thirst, mottled rash, and sleeplessness—let us see what is to be found in Thucydides about each and all of them. It will, in fact, be seen that each of these symptoms is discussed by him almost in the order in which I have given them: 1. "Violent heats in the head." ("*τῆς κεφαλῆς θέρμαι ἰσχυραί.*") 2. "Redness and inflammation of the eyes." ("*τῶν ὀφθαλμῶν ἐρυθήματα καὶ φλόγωσις.*") 3. "Sneezing and hoarseness came on, and in a short time the pain descended into the chest with a violent cough." ("*πταρμος καὶ βράγχοι ἐπιγίγνετο ἐς τά στήθη ὁ πόνος μετα βηχὸς ἰσχυρόν.*") 4. Vomiting ("*καὶ ὁπότε ἐς τὴν καρδίαν στηρίξειεν ἀνέστρεφέ τε αυτὴν*")—i.e., "when it settled in the stomach, it upset it." 5. A rash of a "reddish" (*ὑπέρυθρον*) "livid" tint (*πελιτνον*). 6. Thirst. This was so great that not even the lightest clothing could be borne. The stricken ones lay stark naked, and many threw themselves into the cisterns, "being in the grasp of an unquenchable thirst" ("*τῃ διψῃ ἀπαυστῳ ξυνεχομενοι*"). 7. Sleeplessness ("*καὶ ἡ ἀπορία μὴ ἡσυχαζειν καιὰ ἡ ἀγρυπνία ἐπέικετο δια παντός*")—i-e., "and the misery of restlessness and wakefulness weighed upon all." This is a fairly good description of the "coma-vigil" of modern clinicians. The other symptoms described correspond to our sequelæ. They are: gangrene of the genitalia, fingers, and toes, loss of eyes, and sometimes complete loss of memory (probably dementia):—"*κατεσκηπτε γὰρ ἐς διδοια καὶ ἐς ἀκρας χειρας καὶ πόδας,*" &c. ..... "*τους δὲ καὶ λήθη ἐλαμβανε,*" &c.

So far, then, and no farther does it seem to me necessary to quote from Thucydides to establish the view that he is in reality describing typhus fever.

I am, Sir, yours faithfully,

DUNCAN MACKENZIE MACRAE, M.A., M.B., Ch.B. Glasg.

Roberts Victor Diamond Mine, Victor, O.F.S., Sept. 1st, 1914.

[1] Hist., Bk. 2, chaps. 47–53.

[2] THE LANCET, June 27th, 1908, p. 1838.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Oct. 8th, with Sir Francis H. Champneys in the chair. A letter was considered from Miss Llewellyn Davies, general secretary of the Women's Coöperative Guild, asking the Board to appoint a representative to join a deputation to the President of the Local Government Board, in his capacity as such and as chairman of the Government Committee for the Relief of Distress, to consider the care of maternity in time of war. The Board directed that Miss Llewellyn Davies be informed that the Central Midwives Board, while sympathising with any scheme which had for its object the care of maternity in time of war, did not see its way to join the deputation. A letter was considered from the secretary of the County Councils Association transmitting a copy of a resolution passed by the executive council at its meeting on July 29th with regard to the registration and inspection of lying-in homes, institutions, and houses where women are habitually taken in for their confinement for pay. The secretary to the Board reported that the executive council of the County Councils Association had resolved that in the opinion of the council it is desirable that all lying-in homes should be registered and inspected by the inspectors of the local supervising authorities under the Midwives Act. Further correspondence was considered with regard to a complaint made by a certified midwife of the conditions of midwifery practice in Bangor and the absence of inspection by the local supervising authority. The Board decided that the correspondence be referred to the County Councils Association. A letter was considered from a certified midwife approved by the Board for the purpose of undertaking the practical training of pupils at her nursing home, asking that her approval may be extended to cover a second training home not in the immediate vicinity of the first. The Board decided that the application be refused.

THE WAR.

ARMY MEDICAL SERVICE: A SPECIAL SANITARY COMMITTEE.

THE Director-General of the Army Medical Service reports a highly satisfactory state of health of the armies camped, billeted, or quartered in the various commands at home. Nowhere is there any undue prevalence of preventable disease, and the massing of large numbers of men in the military and other stations under difficult conditions has not been accompanied by any untoward results.

Concerning the health of the Expeditionary Force, the Director-General reports an equally satisfactory state of affairs. He is satisfied that the utmost vigilance is being exerted to maintain the present position. To ensure still greater security Lord Kitchener has decided to establish at the War Office a sanitary committee, consisting of military and civilian members, to advise him on all matters affecting the health and well-being of troops at home and abroad. He is also sending the Director-General, Sir Arthur Sloggett, overseas to make a thorough inspection of the medical arrangements and coördinate the work of the Army Medical Services with the St. John Ambulance and Red Cross Societies, of which he will be Chief Commissioner. Sir Arthur Sloggett will be accompanied by Colonel Burtchaell, Royal Army Medical Corps, as staff officer. During his absence at the seat of war Sir Alfred Keogh will act as Director-General at the War Office.

NEW CONSULTING PHYSICIANS WITH THE EXPEDITIONARY FORCE.

Sir Almroth Wright, Sir Wilmot Herringham, and Sir John Rose Bradford have been appointed consulting physicians with the Expeditionary Force.

FREE MEDICAL ATTENDANCE FOR THE DEPENDENTS OF MEN ON ACTIVE SERVICE.

In our issue of Sept. 19th we published a letter from Mr. J. A. Pease, President of the Board of Education, announcing that a scheme had been devised for providing medical attendance, with medicine and appliances, to necessitous dependents of soldiers and sailors serving with the colours. The Central Committee for the Prevention and Relief of Distress set up a special subcommittee to bring this scheme into operation on a properly organised and comprehensive basis. A circular issued this week by the subcommittee, which is now known officially as the Naval and Military Dependents (Medical Treatment) Committee, announces that the necessary arrangements having been made, the British Medical Association and the Pharmaceutical Society have communicated with individual members of the medical and pharmaceutical professions, informing them of the detailed arrangements adopted and inviting their coöperation. To this appeal a generous response has been received from medical men and chemists in all parts of the country, who have intimated their willingness to give their services in accordance with the scheme, and the cordial coöperation of Local Representative Committees is invited. These committees are asked to arrange for the distribution of medical vouchers to dependents in need of medical treatment in accordance with the offers of service made by medical practitioners and pharmacists. This voucher, which is called the Medical Book, and of which we have received a specimen copy, will enable the recipient to obtain free medical treatment, and contains prescription forms which will secure free drugs and appliances, the latter according to a fixed schedule, from the chemist. These vouchers will, of course, not be issued to persons entitled to medical benefit under the National Insurance Act, and it will be open to medical men or chemists to make representation to the Local Representative Committees, where it would appear that the circumstances of persons applying for assistance do not entitle them to be admitted to the benefits of the scheme. Applications for copies of the above circular, for supplies of the medical book, or for information on other matters should be made to the joint secretaries, Naval and Military Dependents (Medical Treatment) Committee, Wellington House, Buckingham Gate, London, S.W. Briefly summarised, the duties of the Local Representative Committees in connexion with this scheme are (*a*) to arrange for the issue of medical books to suitable recipients, and (*b*) to keep a list of persons to whom books have been issued.

THE CONDITION OF OUR WOUNDED.

A surgeon on service at one of the London base hospitals (Territorials) has given us some impression of the wounded who have come under his care which will relieve certain widely spread apprehensions. Of those who came from the front after the battle of Mons and during the retreat the majority suffered from general exhaustion, want of rest, and foot-soreness rather than from wounds, and rest and care worked immediate restoration in the majority of cases. Of those who came after the battles of the Marne and the Aisne, nearly all were suffering from shell and bullet wounds, the number of the former greatly preponderating, this observation thus exactly bearing out Mr. Makins's statement of the position in the French hospitals. The striking point, said our informant, was the extraordinarily good condition in which the men arrived and the careful and cleanly nature of the dressings. Considerably less than 10 per cent. of any suppurating wounds came under his notice, which is gratifying information taken in connexion with the comparatively large proportion of shrapnel injuries. Rapid healing has taken place in many cases and the men soon regained their general health. On inquiry from them it became evident that every possible opportunity had been taken during their transport to change the dressings, and the commissariat arrangements appear to have been admirable, the men expressing themselves as having been well fed all through their long journey of several days. In fact, the cheerfulness of those who have been returned from the battle of the Marne, despite their wounds, was in marked contrast to the depressing condition of those who had taken part in the retreat from Mons. This first-hand evidence of good organisation and thorough attention will be received with much pleasure.

THE FRENCH MEDICAL PROFESSION AND THE WAR.

To those who are accustomed to receive regularly the medical journals of the continental nations now at war their abrupt cessation with the outbreak of hostilities brings with it a curious sense

of isolation. Whether the German medical weeklies are being printed we actually do not know, but correspondents in Switzerland indicate that some at least are still appearing. A letter from Paris, published in the *Journal of the American Medical Association* for Sept. 19th, states that the *Semaine Médicale* has ceased publication and that the *Presse Médicale* is appearing as a sheet of medico-military information. The writer of this letter gives some interesting particulars of the way in which the profession in France, as in Britain and Germany, has volunteered its services to the army and the navy. As in these other countries, too, certain districts have been seriously depleted of medical practitioners, but steps have been taken to see that the really sick are not without such professional service as they may need. The French Red Cross Societies are three in number: the Société de Secours aux Blessés, the Association des Dames Françaises, and the Union des Femmes de France. These societies between them are able to provide their country with 600 hospitals containing 35,000 beds and a staff ready to act, while the Union des Femmes de France can send 10,000 trained nurses to the army. The Académie de Médecine has undertaken the manufacture of small-pox vaccine, and a general campaign of vaccination and revaccination has been organised. It is also advising general antityphoid vaccination, not only for the army, where it is compulsory, but also for the civil population. The Académie des Sciences has appointed committees to deal with various subjects, including hygiene and medicine. The sale of absinthe has been forbidden throughout France. The war is at the present time demanding a much larger proportion of the available energies in France and in Germany than it is in this country, and it behoves Britain to see to it that when her own resources are more heavily taxed, as they certainly will be later on, everything and everybody is ready for service.

MEDICAL CASUALTIES AT THE FRONT.

The following additional announcements have been made with regard to officers of the Royal Army Medical Corps at the seat of war:—

Missing: Lieutenant R. A. Flood.

Captain G. A. Kempthorne, previously reported missing, is now unofficially reported wounded and a prisoner of war; Colonel H. N. Thompson, Major H. W. Long, Captain J. H. Graham, Captain G. H. Stevenson, Captain E. S. B. Hamilton, Captain H. B. Kelly, and Captain R. J. Cahill, previously reported missing, are now unofficially reported prisoners of war.

The first list received from Germany of British officers who are prisoners of war contained the following medical names: Major P. H. Collingwood, Major W. B. Fry, Major J. C. Furness, Captain W. K. Beaman, Captain J. P. Lynch, Captain E. M. Middleton, Captain A. A. Sutcliff, Lieutenant A. T. Brown, Lieutenant P. P. Butler, Lieutenant S. M. Hattersley, Lieutenant H. W. Hills, Lieutenant J. L. Lauder, Lieutenant A. Preston, and Lieutenant L. M. Routh.

In the list of wounded British officers in Paris hospitals furnished to the press by Lord Robert Cecil appeared the names of Major E. McDonnell, R.A.M.C. (at Versailles), and Lieutenant A. Watson, R.A.M.C. (at Claridge's).

OBITUARY OF THE WAR.

CHARLES DALTON, L.R.C.P. & S.IREL., LIEUTENANT-COLONEL, ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Charles Dalton, who died of wounds received in action, was born on May 3rd, 1867. He was educated at Carmichael College, Dublin, and obtained the diplomas of the Irish Royal Colleges in 1888. He joined the Army Medical Service as surgeon in January, 1891, became Major in the Royal Army Medical Corps in January, 1903, and was promoted Lieutenant-Colonel in May of last year. Before the outbreak of war he was stationed at Dublin, holding the post of deputy assistant director of medical services. Colonel Dalton had a long and distinguished list of war services. He served in Burma in 1893, being present at operations in the Kachin Hills, for which he received a medal with clasp. In 1897–8 he served in the North-West Frontier of India, taking part in the Malakand expedition and the action at Landakai, receiving a medal with clasp. In 1898–9 he took part in the Karene expedition in Sierra Leone, and was mentioned in despatches and received a medal with clasp. In the following year he served in the South African war as a special service officer, taking part in operations in Natal and being present at the relief of Ladysmith, where he was severely wounded. He was also engaged in operations in the Orange Free State during 1900, including actions at Houtnek, Vet River, and Zand River; and in Cape Colony, south of Orange River. He was mentioned in despatches, and received the Queen's medal with three clasps.

FRANK FORREST, M.R.C.S. ENG., L.R.C.P. LOND., CAPTAIN, ROYAL ARMY MEDICAL CORPS.

Captain Frank Forrest, who was killed in action on or about Sept. 13th at the battle of the Aisne, entered Owens College, Manchester, as a medical student in the session 1895–96, living at that time with his mother at Blackburn. After pursuing the usual course of studies for the English Conjoint diplomas he qualified M.R.C.S. Eng. and L.R.C.P. Lond. in 1904. After qualification he held the post of assistant house surgeon in the North Staffordshire Royal Infirmary, Stoke-on-Trent. He joined the Royal Army Medical Corps as lieutenant in January, 1906, and was promoted captain in July, 1909. Before the outbreak of war Captain Forrest was stationed at the Royal Army Medical College, and was then attached to the Irish Command.

HUGH JAMES HOPPS, M.B., CH.B. EDIN., SURGEON, ROYAL NAVY.

Surgeon Hugh James Hopps, who was drowned when H.M.S. *Aboukir* sank on Sept. 22nd, was born at Chipping Norton, Oxfordshire, in 1887. He studied medicine at Edinburgh, and graduated M.B., Ch.B. at the University in 1911, after a creditable career as a student. He was a popular member of the Edinburgh Students' Union, and held a prominent position among the men of his year. He entered the navy as surgeon in October, 1913, and joined the ill-fated *Aboukir* at the beginning of August.

ALFRED EDWARD TURNBULL, M.B., CH.B. EDIN., SURGEON, ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Alfred Edward Turnbull, who went down with H.M.S. *Cressy* on Sept. 22nd, was born at Pinkerton, Dunbar, on March 10th, 1882, the son of Mr. Phipps Turnbull, of Edinburgh.

He studied medicine at Edinburgh University, the Royal College of Surgeons of Edinburgh, and Glasgow University. He graduated M.B., Ch.B. at Edinburgh in 1907, and was clinical assistant in the University surgical wards of the Royal Infirmary, Edinburgh, in 1908, resident house surgeon in 1908–09, and resident gynæcologist in 1909–10 at the Royal Infirmary. Previously he had been Mackenzie bursar in anatomy and prosector in the University of Edinburgh. Dr. Turnbull was in practice at Faringdon, Berkshire, and having been a surgeon in the Royal Naval Volunteer Reserve since January, 1912, he was called up when the Navy was mobilised and joined his ship on August 1st. A popular and able young physician, of whom much was expected in his future career, he was a Fellow of the Edinburgh Obstetrical Society, and had published several communications upon subjects connected with midwifery.

ARTHUR KEITH ARMSTRONG, M.R.C.S. ENG., L.R.C.P. LOND.,

LIEUTENANT, ROYAL ARMY MEDICAL CORPS.

Lieutenant Arthur Keith Armstrong, who died in France on Sept. 15th from wounds received in action, was born in 1881 in London, and was the only son of Mr. Henry Armstrong, of Dartmouth Park-road, London, N.W. He was educated at Highgate School and St. Bartholomew's Hospital, and qualified at the English Conjoint Board in 1907. Soon afterwards he became house surgeon at the Huntingdon County Hospital, and later surgeon on board the British India mail steamship *Jelunga*. In 1909 he entered into partnership at Monmouth with Dr. Lloyd G. Smith and was appointed honorary medical officer to the Monmouth Hospital in the same year. He married Louise, daughter of John Macmin, and leaves two children. When war was declared he offered his services to the War Office, and was gazetted temporary lieutenant in the Royal Army Medical Corps on August 18th. After a short period at Woolwich he was sent abroad to join the Expeditionary Force, and was one of the first medical men to lose his life for his country.

HERBERT LESLIE HOPKINS, M.D., B.S. LOND.,

LIEUTENANT, ROYAL ARMY MEDICAL CORPS.

Lieutenant Herbert Leslie Hopkins, assistant county medical officer of health of West Suffolk, was reported as being killed on Sept. 19th whilst serving with the Expeditionary Force. He had received permission from the county council on August 10th to volunteer for active service, and joined the forces at Devonport on August 15th as bacteriologist and pathologist to the military hospital there. On August 26th he sailed for France. He was born on August 23rd, 1887, and joined Guy's Hospital in 1905, having obtained an entrance scholarship in arts. During his student career he was a student demonstrator in physics, anatomy, microscopic pathology, and bacteriology, and pathological assistant to the surgical registrar. He took the degree of M.B., B.S. of the University of London in November, 1911, at the same time passing the examination for the M.R.C.S. Eng. and L.R.C.P. Lond. After qualification he devoted some time to study in various special departments at his medical school. Subsequently to serving as house physician to the Derbyshire Royal Infirmary in 1912, he was appointed house physician to the City of London Hospital for Diseases of the Chest, which appointment he held until Sept. 1st, 1913, when he commenced his work in West Suffolk. In July of this year he passed the examination for the degree of M.D. in State Medicine in the University of London. Dr. A. H. Bygott, county medical officer of health of West Suffolk, writes: "By the death of Lieutenant Hopkins the medical profession, especially the sanitary branch of it, has lost one of its ablest junior officers. He was a man of high attainments, a sound physician, capable surgeon, and good bacteriologist. During the year he worked with me I formed the highest opinion of his capabilities, and had his life been spared I feel sure there is no position in his profession to which he might not have attained. His kindly disposition and pleasant manners made him a general favourite both in official and social life. Able, energetic, conscientious, and very thorough, his death is a calamity to his colleagues and to the council he so loyally served."

CASES FROM THE FRONT AT THE SECOND EASTERN GENERAL HOSPITAL.—The two fresh convoys of wounded from France admitted to the Second General Eastern Hospital, Brighton, contained many men very seriously injured. The wounds were mostly from shrapnel received at the battles of the Marne and the Aisne. Many of the patients were utterly exhausted on arrival, having been travelling by train and boat under most unfavourable circumstances for seven days. However, with rest and care it is wonderful how well they have pulled round. Of nearly 600 admissions from the war from Sept. 1st to the present there have only been three deaths. Among the casualties there were a large number of bullet wounds of bones and joints, many of them septic and very badly comminuted. Every possible effort is being made to save the limbs, even in the worst cases, and so far there have been no amputations performed. It is almost impossible to hope that none will have to take place, as some of the wounds are extremely bad, but in a great many there is no doubt that the limb will be saved. Appended are notes of a few of these cases.

Compound fracture of the head of the humerus: This was an injury of the upper part of the arm, breaking the head of the humerus. About ten days after the wound the patient had a sudden swelling over the pectoral muscles of considerable extent, and he at the same time became very blanched. It was clear that there was a large subcutaneous hæmorrhage. The swelling was incised and attempts were made to tie the bleeding vessel. This was found to be impossible, and therefore the subclavian artery was ligatured. This procedure stayed the main part of the bleeding, but it was necessary to plug the wound to arrest a good deal of rather free oozing. He did very nicely for a month, when he had after some slight exertion free bleeding from the wound, which was stopped by plugging with gauze. This happened a second time about a week later. He is now in a bad state from loss of blood, and will certainly not be able to stand many more such attacks. *Injury to knee-joint:* In one case the whole knee is disorganised, the upper end of the tibia and the lower end of the femur are smashed, and the joint is full of blood. Although an attempt is being made to save the limb success is very doubtful. A second example of wound of the knee is the following. The bullet was lodged between the patella and the lower end of the femur without any fracture. It was removed, but there is extensive synovitis, happily at present not purulent. There are a few very interesting cases of *bullet wounds of the skull.* In the first case the man was struck by a bullet in the left vertical region, and left lying in a trench half filled with water for 40 hours, with practically no attention. When picked up he was found to have paralysis of the right leg. On admission he had a punctured wound of the vertex, with small pieces of depressed bone. There was no sign of any bullet, although there can be little doubt that it is lodged somewhere in the skull. The paralysis of the leg has quite cleared up. The lesion here was some slight injury to the leg centre in the left cortex. In a second case, the man was

struck by a bullet in the vertex, and on his admission there was found a wound on this part into which had been driven deeply several pieces of bone. The brain into which the bone had been forced was suppurating. X ray examination showed no trace of the bullet. The wound was opened up, the skull trephined, the pieces of loose bone removed, and the abscess drained. The question here is, Did the bullet enter the skull and become hidden somewhere in the base, or did it strike tangentially, glance off, and simply drive in the fragments of bone without itself entering the cranium? At any rate, whatever happened the man is now making very good progress. A curious case is one of *concussion of the spine*. The patient had marched and fought for two days practically without food, when he was struck by a piece of shrapnel in the upper part of the left thigh, the bullet passing upwards and lodging under the skin of the right ribs low down. He lay on the ground in pouring rain for 48 hours, all the time exposed to shell fire, without food or water, or assistance of any kind. He found that he was paralysed in both legs, had no sensation in them, and could not empty his bladder. At the end of this time our men drove the Germans back and the ambulance was able to collect the wounded. A surgeon on the field at once passed a catheter, and the bullet was extracted during his journey on the boat to Southampton. He is now rapidly getting well. He has the full use of his legs, sensation is returning, but so far the bladder and rectal paralysis is still present. The rapid improvement of the cord symptoms is clear proof that there was no actual severance of the organ. Probably what has happened is this. The bullet, in passing by the spine, gave rise to a well-known phenomenon of bullet wounds, and caused a rapid vibration of the cord, and thus produced the symptoms of concussion. The prognosis is quite good; already, as mentioned, the symptoms are rapidly clearing up. *Bullet wound of the liver:* This man was shot through the upper part of the abdomen, the bullet passing through the liver. On admission he was passing blood per rectum, and there was a swelling in the abdomen, which was at once opened and found to be an abscess. The bleeding from the rectum stopped. The abscess drained well, and the man did nicely for a month, when he was suddenly seized with symptoms of acute intestinal obstruction—e.g., persistent vomiting, constipation, and pain. His abdomen was opened and it was found that there were many recent adhesions binding down the bowel and causing blocking. These were as far as possible released, but it was found impossible entirely to relieve the obstruction in this way, and therefore the dilated small intestine was joined to the large bowel. The man is now, 48 hours after the operation, somewhat better, but in a very precarious state. *Shrapnel wound of the pelvis:* This man was struck by a shrapnel bullet in the lower part of the abdomen, which passed through his pelvis, just missing the bladder, and finally lodged high up in the thigh. Some considerable difficulty was encountered in removing it, but it was finally found embedded in the femur and taken out. *Shrapnel bullet embedded in the head of the tibia:* The patient was struck in front of the leg, the bullet passing directly backwards and lodging in the head of the tibia just over the popliteal artery. It was causing a good deal of pain, and there was a discharging sinus, so it was decided to take it out. The sinus in the bone was enlarged by chiseling, and the bullet found embedded in the bone, in which there was an abscess cavity, which is now doing well. *Extensive shrapnel wound of the buttock:* This man had half his buttock blown off by shrapnel. There was a large sloughy wound of the buttock, which is healing rapidly with peroxide of hydrogen and iodoform dressings. It is referred to as an example of extensive wound of soft parts causing considerable disablement, for it will be very many weeks before the patient is fit to resume duty. These examples show how serious have been many of the cases sent to the hospital, and how fresh and varied has been the experience of the surgeons attached to the staff.

FIRST NORTHERN GENERAL HOSPITAL (T.F.), NEWCASTLE-ON-TYNE.—The staff of this hospital is derived from that of the Royal Victoria Infirmary, Newcastle-on-Tyne, and the following is the personnel which has been mobilised:—Commanding Officer: Lieutenant-Colonel T. Gowans. Registrar: Major F. C. Pybus. Quartermaster: Lieutenant T. Gibbs. Lieutenant-Colonels: T. Beattie, W. E. Hume, A. M. Martin, and H. B. Angus. Majors: W. G. Richardson, J. W. Leech, G. G. Turner, R. A. Bolam, W. D. Arnison, and A. Parkin. Captains: G. Hall, T. M. Allison, D. W. Patterson, H. J. Slade, F. G. Armstrong, H. H. Markham, W. Seymour, and W. F. Wilson. Officers not yet mobilised: Major Wardale, Major Lyle, and Captain Whillis. The hospital has its quarters in the Armstrong College, Newcastle-on-Tyne, where class-rooms, &c., have been converted, after making the necessary sanitary additions, into wards. There have been arranged medical and surgical blocks, and also a block for venereal and parasitic diseases, this last entirely separate from the general wards. In addition to the beds thus arranged further accommodation has been secured by taking wards in the Royal Victoria Infirmary, which is adjacent to the college. In all some 650 beds are available, 450 in the college and 200 in the infirmary. The contiguity of the infirmary and college is most convenient, since the major surgical cases can be dealt with in the infirmary; moreover, the radiographic department in the infirmary is thus available. For minor surgical cases, varicose veins, hæmorrhoids, &c., a theatre has been arranged in the art department of the college. The kitchen arrangements are developed from those already existing in the College Refectory. The non-commissioned officers and men have their quarters in the Grand Assembly Rooms, also an adjacent building, while the nurses, about 100 in all, are quartered in the Royal Infirmary and also in the Grand Hotel. The whole block of buildings adapts itself admirably for the purpose of a temporary hospital. The hospital commenced its mobilisation on the evening of August 4th, and the first patient was admitted on the 7th, two days under the scheduled time for mobilisation. The hospital serves as a base and general hospital for the many troops now quartered between Berwick and the Hartlepools, though its proper area of supply includes an even greater portion of the Northern Command. A glance at the figures of patients admitted shows the amount of work which has been done already. During August (from the 7th) 545 cases were admitted, in September 898, and in October (up to the 7th) 216; in all, a total of 1659. In addition to the above figures, 242 men, wounded or sick from the Expeditionary Force, have been treated, a grand total of 1901 patients in two months. As patients convalesce they are returned to their units or sent for further treatment to other quarters which have been adapted to receive them—at Middlesbrough, Darlington, the Workhouse Infirmary (where wards have also been taken), Newcastle, Sunderland Eye Infirmary, and Blagdon Hall, Northumberland, the seat of Lord Ridley. The cases of sickness include pneumonia, septic throats, influenzal colds, and venereal and parasitic troubles, among others. No enteric fever has as yet appeared. The surgical operations done number 283, and include hernia (41), appendicitis (24), loose semilunar cartilage (13), hæmorrhoids (22), ruptured duodenal ulcer (3), varicose veins (18), and compound fractures (31). The staff, non-commissioned officers, men and nurses, have volunteered for service abroad practically unanimously.

WAR APPOINTMENTS.—Colonel M. W. Russell, R.A.M.C., and Lieutenant-Colonel Sir H. Thornhill, K.C.I.E., have been appointed Inspectors of Administration, Medical and Sanitary Services, in connexion with the places of internment of prisoners of war.—Lieutenant-Colonel F. Wyville Thomson, I.M.S.(R.), has been appointed Senior Medical Officer, Tay Defences, Dundee.—Major Sir E. S. Worthington, medical officer to the Duke of Connaught, left Ottawa on Oct. 9th for the front.

THE 2ND LONDON SANITARY COMPANY.—There are vacancies for two suitable officers in this unit. These two vacancies will be filled by duly qualified medical men, who should hold the D.P.H. or possess a public health degree. They should be willing to join for the period of the war or for four years, and they should be willing to serve abroad. If physically fit they should apply personally at the orderly room of the 2nd London Sanitary Company, R.A.M.C. (T.F.), to the commanding officer at the Duke of York's headquarters, Chelsea, S.W., at 10.15 any morning except Sunday. The work of the company is most interesting and valuable. It includes everything that appertains to the best sanitation of camps—e.g., the construction of incinerators, the control of water-supply and ablution places, the arrangement and control of kitchens, and the disposal

of refuse. The experience that will be gained by young men working in this company will stand them in good stead all their lives, and it is not likely that the vacancies, now that they are announced, will remain for an hour without their applicants.

CITY OF LONDON HOSPITAL FOR OFFICERS.—The City branch of the British Red Cross Society, acting in conjunction with the Fishmongers' Company and with the generous help of City firms, has fitted up the first floor of the handsome hall of the company, overlooking the Thames at London Bridge, as a complete hospital for officers wounded in the war. The work of internal reconstruction and equipment has been admirably carried out, and the white-walled cubicles into which the hall has been subdivided have a most cheerful and comfortable appearance. The hospital is provided with operating theatre, anæsthetic room, X ray room, bath rooms, &c., and contains accommodation for some 25 patients. The administrative medical officer is Dr. W. J. Howarth; the consulting surgeon, Mr. D'Arcy Power; the consulting physician, Dr. Samuel West; and the resident surgeon, Mr. R. L. Mackenzie Wallis.

PAYMENT FOR FIRST-AID LECTURES IN IRELAND.—There has been considerable discussion among medical men in Ireland as to whether fees should be charged for the conduct of courses of instruction in first aid and ambulance work. Some men regard the delivery of such lectures as an offering to be given gratuitously for the good of the country. Others, not unnaturally, regard teaching of minor surgery and anatomy and physiology as a professional task deserving of pecuniary reward. In a great many cases it is pointed out the members of the first-aid classes are well able to contribute for the payment of their instructor. Moreover, the Department of Agriculture and Technical Instruction is devoting considerable sums of money for the upkeep of such classes as fulfil its requirements. The matter was considered at the last meeting of the council of the Irish Medical Association, and a resolution was carried to the effect that fees should be charged for the delivery of lectures on first aid and allied subjects. It has long been a rule of the British Medical Association that members should charge fees for such lectures.

THE INDIAN SOLDIERS' FUND.—An appeal has been issued by Lord Roberts on behalf of the Indian Soldiers' Fund, which has been established to provide the sick and wounded among our Indian troops at the seat of war with hospital accommodation in a warm climate and to furnish comforts such as additional warm clothing for Indian soldiers whilst in the field. For this purpose a subcommittee has been formed by the St. John Ambulance Association, with the approval of the Viceroy of India and the Secretary of State for India. It is proposed to set up a hospital of 500 beds at Alexandria, with a smaller subsidiary hospital at Marseilles. The honorary secretary's address is 1, Carlton House-terrace, London, W.

CANADIAN HOSPITAL FOR FRANCE.—The French official *Gazette* has published a decree authorising the Minister for War to accept a donation of £20,000 from the Canadian Government for the organisation and maintenance of a temporary hospital—to be called the Canadian Hospital—for sick and wounded troops.

THE Royal Westminster Ophthalmic Hospital has offered to the War Office ten beds for the use of the wounded suffering from injuries and diseases of the eye, and this offer has been accepted.

THE article on Open-air Hospitals in War Time, by Lieutenant-Colonel Robert Saundby, R.A.M.C. (T.F.), which appeared in THE LANCET of Sept. 19th, has been published in pamphlet form, price 6*d*., by Messrs. John Bale, Sons, and Danielsson, Limited.

ROYAL ACADEMY OF MEDICINE IN IRELAND.—The annual meeting of the Royal Academy of Medicine in Ireland was held on Oct. 9th. The report of the Council stated that there were 162 Fellows and 21 Members, being eight Fellows and one Member less than in the previous year. The accounts showed a satisfactory balance in hand.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the quarterly examination in Practical Pharmacy held on Oct. 8th the following candidates were approved:—

Douglas Harris Anthony, St. Mary's Hospital; Geoffrey Thomas Baker, Middlesex Hospital; John Behesnilian, Charing Cross Hospital; Arthur Stanley Carter, Middlesex Hospital; Charles Theodore James Drobig, St. Mary's Hospital; Colin Charles Gordon Gibson, Guy's Hospital; Lionel Augustine Joseph Graham, Cambridge University and Guy's Hospital; William Clavering Hartgill, Charles Guy Hitchcock, and Alwyne Harold Manfield, London Hospital; Arthur Daniel Morris, University College Hospital; Arthur Geoffrey Morris, Bristol University; Edward Hugh Morris, Charing Cross Hospital; Newman Frederick Norman, St. Bartholomew's Hospital; Arthur Llewellyn Spencer Payne, Guy's Hospital; Claude Hollingworth Philips, London Hospital; Roberto Quesada-Jiminez and William Leonard Eliot Reynolds, Guy's Hospital; Edward Ebenezer Samaraweera, Ceylon Medical College and King's College Hospital; James Ernest Scanlan, St. Mary's Hospital; Henry John Hugh Symons, King's College Hospital; Ramon Romero SyQuia, London Hospital; and Harold Vickers, St. Mary's Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At the Preliminary Science Examination for the Licence in Dental Surgery held on Sept. 29th and Oct. 1st and 2nd the following candidates were approved in the subjects indicated:—

Chemistry and Physics.—Alec Stuart Blacklaws, Guy's Hospital; Alfred Harold Bradbeer, Royal Albert Memorial College, Exeter; Eric Norman Commander, King Edward's School, Birmingham; Walter Samuel Hill, Bridlington Grammar School; Felix Reginald Knowler, Guy's Hospital; Stanley Herbert Lenton, Northampton School; Herbert Alfred Potter, Royal Dental Hospital; and David Errand Robinson and William Adam Woodward, Guy's Hospital.

Chemistry.—John Hulme Allwood, Liverpool University; Florence Goodman, Birkbeck College; John Herbert, Guy's Hospital; Bartle Leathlean, Bristol University; Ernest Findlay Shaw, Guy's Hospital; Robert Thorburn, Royal Dental Hospital; Joseph Frederick Weakley, Southend Technical School.

Physics.—Guy Harcourt Bowen, King Edward's High School, Birmingham; and Israel Jacobs, Bristol University.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held recently the following candidates passed in the subjects indicated:—

Biology.—C. E. Clarke, Bombay.

Materia Medica and Pharmacy.—A. M. Berman, Belfast; C. H. Philips, London Hospital; and A. J. A. Wilson, Royal Free Hospital.

Anatomy.—A. M. Berman, Belfast; J. M. Forbes, Aberdeen; C. Gilroy-Jones, St. Mary's Hospital; E. M. Gooda, London Hospital; F. J. Harrington, Guy's Hospital; D. E. Hearn, Durham; R. F. Jarrett, London Hospital; H. D. L. Jones, St. Mary's Hospital; S. Mikhail, Cairo and Middlesex Hospital; J. B. Thomas, King's College; and L. J. Vincent, Cambridge and St. Mary's Hospital.

Physiology.—E. V. Beaumont, St. Mary's Hospital; A. M. Berman, Belfast; R. F. Jarrett, London Hospital; St. Mikhail, Cairo and Middlesex Hospital; T. F. Reason, St. Mary's Hospital; J. B. Thomas, King's College; and L. J. Vincent, Cambridge and St. Mary's Hospital.

THE late Surgeon-Major-General Robert Lewer, A.M.S., of Southsea, the valuation of whose estate is just announced, took part in Lord Roberts's march from Kabul to Kandahar.

MEDICAL MAGISTRATES.—Mr. F. S. Leech, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A., and Mr. John Todd, M.R.C.S. Eng., L.S.A., were on Oct. 8th sworn in as justices of the peace at the Gateshead police-court.

Sir Robert M. Simon, after 35 years' service upon the medical staff of the Birmingham General Hospital, recently retired from the post of physician, and on Wednesday last was presented with his portrait, which will be hung on the walls of the hospital, and an illuminated address. At the same time Lady Simon was presented with a diamond tiara.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—A meeting of this society will be held to-day, Friday, Oct. 16th, at 8.30 P.M., at 11, Chandos-street, Cavendish-square, London, W., when a paper on the Classification of the African Trypanosomes Pathogenic to Man and Domestic Animals will be read by Surgeon-General Sir David Bruce, A.M.S., C.B., F.R.S.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

GAY, S. B., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Shardlow District of the county of Derby.

GRAHAM, J. M., F.R.C.S. Edin., has been appointed Specialist in Operative Surgery at the Military Hospital, Edinburgh.

HAWKINS, ARTHUR, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Physician to the Nordrach-on-Dee Sanatorium, Banchory.

LAWRENCE, H. H., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Petterdale District of the county of Westmorland.

MACNICOL, M., M.D. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Leven District of the county of Fife.

ROLLINGS, J. W., L.M.S.S.A., has been appointed Medical Officer of Health to the Luton District Council.

SCOTT, W. M., M.B., Ch.B. Edin., has been appointed Medical Officer of Health of Sittingbourne during the absence of Dr. T. B. Heggs on Territorial Service.

WILLIAMS, J. R., M.B., C.M. Edin., has been appointed Non-resident Medical Officer of the Conway and Penmaenmawr Joint Isolation Hospital at Groesynyd.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Junior House Surgeon. Salary £100 per annum, with board and laundry.

BIRKENHEAD UNION INFIRMARY.—Female Resident Assistant Medical Officer. Salary at rate of £120 per annum, with board, washing, and apartments.

BIRMINGHAM CITY ASYLUM, Rubery-hill.—Junior Assistant Medical Officer. Salary £200 per annum, with apartments, board, laundry, &c.

BIRMINGHAM, YARDLEY-ROAD SANATORIUM AND ANTI-TUBERCULOSIS CENTRE.—Third Assistant Medical Officer. Salary £200 per annum, with board and residence.

BOLTON INFIRMARY AND DISPENSARY.—Second House Surgeon. Salary £120 per annum, with apartments, board, and attendance.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

BRISTOL CITY ASYLUM, Fishponds.—Second Assistant Medical Officer, unmarried. Salary £250 per annum, with apartments, board, washing, and attendance.

BRISTOL, COSSHAM MEMORIAL HOSPITAL, Kingswood.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

BRISTOL ROYAL INFIRMARY.—House Surgeon and House Physician for six months. Salary at rate of not less than £100 per annum, with board, apartments, and laundry.

BURY AND DISTRICT JOINT HOSPITAL BOARD.—Assistant to Medical Superintendent. Salary £260 per annum, with board, washing, and lodging.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—Resident Medical Officer, unmarried. Salary £160 per annum, with board, lodging, and laundry.

CANTERBURY, KENT COUNTY ASYLUM, Chartham.—Junior Assistant Third Medical Officer, unmarried. Salary £250 per annum, with quarters, board, washing, &c.

CARDIFF CITY MENTAL HOSPITAL, Whitchurch, near Cardiff.—Second Assistant Medical Officer, unmarried. Salary £280 per annum and all found.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Dental Surgeon.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Senior House Surgeon. Salary £140 per annum, with board, apartments, and laundry.

CHICHESTER, ROYAL WEST SUSSEX HOSPITAL.—House Surgeon, unmarried. Salary £110 per annum, with board, residence, and washing.

CITY OF WESTMINSTER UNION INFIRMARY, Fulham-road, S.W.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salaries £160 and £140 per annum respectively, with board, residence, and washing.

DERBY COUNTY SANATORIUM.—Resident Assistant. Salary £250 per annum, with board, lodging, and laundry.

DUMFRIES, CRICHTON ROYAL.—Temporary Assistant Physician, unmarried. Salary at rate of 5 guineas a week, with apartments, board, laundry, and attendance.

DUNDEE ROYAL INFIRMARY.—Resident Medical Officer. Salary at rate of £40 per annum, with board, lodging, and laundry.

DURHAM COUNTY HOSPITAL.—House Surgeon. Salary £150 per annum, with board, residence, and laundry.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Honorary Physician for six months. Also House Surgeon for four months. Salary at rate of £75 per annum, with board, residence, and washing.

GLASGOW DISTRICT BOARD OF CONTROL.—Resident Medical Superintendent for Mental Defectives, Stoneyetts, Chryston. Salary £300 per annum, with house, coal, light, &c.

GLASGOW UNIVERSITY.—Examiners.

GLOUCESTER, GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

GREAT YARMOUTH COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary £250 per annum.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £140 per annum, with board, lodging, and washing.

GREENWICH, DREADNOUGHT HOSPITAL.—House Surgeon and Casualty Officer. Salary at rate of £50 per annum each, with board, residence, and washing.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician for six months. Salary £5 5s. per month.

HUDDERSFIELD ROYAL INFIRMARY.—Senior and Junior Assistant House Surgeons. Salary £80 per annum each, with board, rooms, and washing.

HULL ROYAL INFIRMARY.—Senior House Surgeon, unmarried. Salary £150 per annum, with board and apartments. Also Assistant House Surgeon. Salary at rate of £100 per annum, with board and lodging.

KING'S LYNN, LYNN AND WEST NORFOLK HOSPITAL.—House Surgeon. Salary £150 per annum.

LEEDS GENERAL INFIRMARY.—Ophthalmic House Surgeon for six months. Salary £50 per annum, with board, residence, and laundry.

LEEDS HOSPITAL FOR INFECTIOUS DISEASES AND TUBERCULOSIS.—Assistant Medical Officer, unmarried, for six months. Salary at rate of £150 per annum, with board, lodging, and washing.

LEEDS PUBLIC DISPENSARY.—Resident Medical Officer. Salary £130 per annum, with board, residence, and laundry.

LEICESTER CORPORATION SANATORIUM AND ISOLATION HOSPITAL.—Resident Medical Officer. Salary £250 per annum, with board and residence.

LEICESTER ROYAL INFIRMARY.—Resident Assistant House Surgeons and Dressers.

LINCOLN COUNTY HOSPITAL.—Junior House Surgeon, unmarried, for six months. Salary at rate of £100 per annum, with board, residence, and washing.

LIVERPOOL, BROWNLOW HILL INSTITUTION.—Resident Assistant Medical Officer. Salary £140 per annum, with apartments and usual resident allowances.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £100 per annum, with board, lodging, &c.

MANCHESTER, COUNTY ASYLUM, Prestwich.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.

MANCHESTER EDUCATION COMMITTEE.—Female Assistant School Medical Officer. Salary £300 per annum.

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, coal, and gas.

MANCHESTER, MONSALL FEVER HOSPITAL.—First Medical Assistant. Salary £225 per annum, with board, lodging, and washing

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Parkplace, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with residence, board, and washing.

MANCHESTER ROYAL INFIRMARY.—Five Junior House Surgeons for three months. Board, residence, and laundry provided. Also Two Senior House Surgeons for six months, and Five House Physicians for three or six months, all unmarried. Salary at rate of £40 per annum, with board, residence, and laundry.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—House Surgeon for Children's Department and House Surgeon for Obstetrical and Gynæcological Departments for three or six months. Salary at rate of £70 each per annum, with board and residence.

METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL, Fitzroy-square, W.—House Surgeon. Salary £150 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Assistant Physician.

NEWCASTLE-UPON-TYNE HOSPITAL FOR SICK CHILDREN.—Senior Medical Officer and Junior Medical Officer for six months. Salary £100 and £80 per annum respectively, with board, lodging, and laundry.

NEWPORT (MON.), ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at rate of £100 per annum, second six months £125, and third six months £150, with board, residence, and laundry.

NORTHAMPTON COUNTY ASYLUM, Berry Wood.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician and Assistant House Surgeon for six months. Salary at rate of £100 per annum each, with board, residence, and laundry. Also Senior House Physician. Salary £120 per annum, with board, residence, and laundry.

OTAGO UNIVERSITY, NEW ZEALAND.—Professor of Clinical Pathology. Salary £600 per annum.

PORTSMOUTH ROYAL HOSPITAL.—House Surgeon for six months. Salary £90 per annum, with board, &c.

PRESTON ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary £120 per annum, with board, residence, and laundry.

PUTNEY HOSPITAL, Putney Common, S.W.—Resident Medical Officer. Salary £150 per annum, with rooms, board, and laundry.

READING, BERKSHIRE EDUCATION COMMITTEE.—Assistant Medical Inspector of Schools. Salary £300 per annum.

RYDE, ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House Surgeon, unmarried. Salary £115 per annum.

ROTHERHAM HOSPITAL.—Assistant House Surgeon. Salary £125 per annum, with board, lodging, and washing.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board and washing.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand, W.C.—Radiographer, part time only. Salary 25 guineas per annum. Also House Surgeon for six months. Salary at rate of £50 per annum, with board, residence, and laundry. Also Assistant House Surgeon. Salary (non-resident) £20 for six months, with part board.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.—Honorary Anæsthetist to the Institution and Anæsthetist to the L.C.C. School Dental Clinic. Also Honorary Gynæcologist, Temporary Honorary Ophthalmic Surgeon, and Honorary Medical Radiographer.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Female Resident Medical Officer and Female Assistant Resident Medical Officer. Salary at rate of £110 and £90 per annum respectively, with board, residence, and laundry.

ST. PANCRAS DISPENSARY, 39, Oakley-square, N.W.—Resident Medical Officer, unmarried. Salary £105 per annum, with residence and attendance. Also Honorary Physician and Ophthalmic Surgeon.

ST. PANCRAS SOUTH INFIRMARY, Cook's-terrace, Pancras-road.—Senior Assistant Medical Superintendent, &c. Salary at rate of £175 per annum, with board and apartments.

SALFORD ROYAL HOSPITAL.—Resident Surgical Officer and Casualty House Surgeon for six months. Salary at rate of £120 and £100 per annum respectively, with board and residence.

SALISBURY (GENERAL) INFIRMARY.—Assistant House Surgeon, unmarried. Salary £75 per annum, with apartments, board, lodging, and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House Surgeons. Salaries £100 and £80 per annum respectively, with board, residence, &c.

SHEFFIELD, EAST-END BRANCH OF THE CHILDREN'S HOSPITAL.—House Surgeon. Salary £120 per annum, with board and residence.

SHEFFIELD ROYAL INFIRMARY.—Two House Surgeons and Assistant House Physician for six months. Salary £100 per annum each, with board and residence.

SHIPSTON-ON-STOUR UNION.—Public Vaccinator.

SOUTHAMPTON FREE EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

SOUTH SHIELDS COUNTY BOROUGH.—Assistant School Medical Officer and Assistant Medical Officer of Health. Salary £300 per annum.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £115 per annum, with residence, board, and washing.

STAFFORDSHIRE COUNTY COUNCIL, CHEDDLETON MENTAL HOSPITAL, Leek.—Junior Assistant Medical Officer. Salary £270 per annum, with quarters, board, washing, and attendance.

STIRLING DISTRICT ASYLUM, Larbert, N.B.—Female Third Assistant Medical Officer. Salary £140 per annum, with board, &c.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

SUNDERLAND COUNTY BOROUGH EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.

SUNDERLAND ROYAL INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, and laundry.

SWANSEA UNION.—Resident Assistant Medical Officer. Salary about £295 per annum.

TAUNTON, TAUNTON AND SOMERSET HOSPITAL.—Senior House Surgeon and Assistant House Surgeon. Salaries £120 and £80 per annum respectively, with board, lodging, and laundry.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, and washing.

WAKEFIELD, CITY OF.—Temporary Medical Officer of Health. Salary £250 per annum.

WALSALL AND DISTRICT HOSPITAL.—Junior House Surgeon and Anæsthetist. Salary £110 per annum, with board, residence, and laundry.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary at rate of £120 per annum, with board, apartments, and laundry.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Senior House Physician. Salary £120 per annum, with board, residence, and washing.

WESTMORLAND CONSUMPTION SANATORIUM AND HOME, Meathop, Grange-over-Sands.—Second Assistant Medical Officer. Salary £175 per annum, with apartments, board, and laundry

WEST RIDING COUNTY COUNCIL.—School Oculist. Salary £350 per annum.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—House Surgeon. Salary £150 per annum, with board and attendance.

WOLVERHAMPTON UNION WORKHOUSE.—Resident Assistant Medical Officer and Medical Officer of Cottage Homes, unmarried. Salary £250 per annum, with apartments, rations, &c.

WORCESTER COUNTY AND CITY ASYLUM, Powick, near Worcester.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy for a Certifying Surgeon under the Factory and Workshop Acts at Colchester, in the county of Essex.

New Addresses.

HART, NEVILLE, M.A., M.D. Cantab., Exeter Lodge, Exeter-road, Bournemouth. Telephone 1471.

A fee of 2s. 6d. is charged for the insertion of Notices of Change of Address, which must not exceed two lines.

Births, Marriages, and Deaths.

BIRTHS.

DICK.—On Oct. 3rd, at 6, West-street, Scarborough, to Dr. and Mrs. J. R. Dick—a son.

NEAVE.—On Oct. 7th, at St. Osyth, Colchester, Essex, the wife of Lionel Digby Neave, B.A. Oxon., M.R.C.S., L.R.C.P., of a son.

DEATHS.

PERN.—On Oct. 12th, at Botley, Hants, Alfred Pern, F.R.C.S., L.R.C.P., aged 70 years.

RAYNER.—On Oct. 11th, at Brighton, after a short illness, Herbert E. Rayner, F.R.C.S., late of Camberley.

Notes, Short Comments, and Answers to Correspondents.

During the continuance of the war the size of THE LANCET *will be curtailed. This has been necessitated primarily by the difficulty in ensuring an adequate supply of paper, but the contributions of most of our correspondents on the continent have failed, and will fail, to reach us. Many special features of* THE LANCET *have had to be sacrificed for the time, and while we ask the indulgence of our readers for this, we promise to restore them at the earliest possible opportunity.*

THE CAMPAIGN AGAINST TUBERCULOSIS.

No doubt the chief means of combating the spread of tuberculosis is by the education of the patients and their friends. This object is in part carried out by the employment of well-trained health visitors to visit the homes of the patients so as to impart the necessary instruction and to render the living rooms as healthy as the circumstances will permit. The psychological factor, however, cannot be eliminated, and it will be found in actual practice that the patients will demand some treatment in the form of medicine. It is extremely difficult to convince them that anything can be done without the visits of a doctor. A medical officer will be found to be essential to control the treatment and further to instruct the patients as to their general mode of life.

A central institute of some kind, therefore, is necessary, where patients can apply in the first instance, and those able to come up for observation should do so, as it would be most difficult for one medical officer to visit regularly all the patients in their homes. Further, the examination of contacts would form a most important part of the scheme, and many of these could attend at the institution. At the same time, however, the institution (dispensary, or whatever it may be called) need be only of the simplest character, a waiting-room and consulting-room, which could be used as an office when the medical officer does not require it, being all that is really needed, although a room set apart for the examination of sputum is to be desired. The drugs required will be few in number. The value of tuberculin injections administered to ambulatory cases has not been definitely determined, and it would be unwise to discard them altogether.

To sum up: In any municipal scheme, properly trained health visitors to visit the homes of the patients are absolutely essential. A medical officer with special experience in tuberculosis is equally necessary, whilst the "dispensary" can be of a very simple character. Further, such an institution should be in touch with a hospital, where cases of a doubtful character might be admitted for purposes of diagnosis.

CUSTOM AND COURTESY.

To the Editor of THE LANCET.

SIR,—I was asked recently by the Prudential Assurance Company to examine and report on the health of two panel patients in this town, the name which I do not give except to you. I wrote to the two doctors in question stating that I had been so requested, and that I should be pleased to meet them. Neither replied, and I examined and reported in due course. I take it that it will not be necessary for me to write to either of these medical men again if I am asked to examine other of their patients.

I am, Sir, yours faithfully,

Oct. 13th, 1914. D.

*** We recommend our correspondent to send the notifications which courtesy demands, whether the courtesy is reciprocated or no. Mr. H. Bazett's letter in THE LANCET of Sept. 5th, p. 680, should be read.—ED. L.

A SAFEGUARD IN THE DARKENED STREET.

TRAFFIC at night, both vehicular and pedestrian, is becoming increasingly difficult and dangerous owing to the very limited lighting arrangements imposed upon us by military necessities. Accidents have already been recorded, and we make bold to offer a suggestion to our authorities, which, if acted upon, would, we think, lessen these dangers without being of any advantage to the enemy. In streets or crossings where there is considerable traffic we suggest that the kerbing of the pavement should be whitewashed. This plan was adopted on the edge of the platforms some years ago by the Underground Railway with great advantage to the public and a reduction of the accident list.

Some of our streets are so dark that it is difficult to see where the pavement ends and the road begins. Such a plan, surely, would be of great assistance to the public and to vehicular traffic also, and its adoption would, we imagine, entail little expense. We quite see that the whitewashing would require frequent renewing, and we only suggest that the process should be employed in selected spots.

A QUOTATION IN SEARCH OF A FATHER.

To the Editor of THE LANCET.

SIR,—I have been unable before this to express my thanks to Dr. H. P. Cholmeley for his letter in THE LANCET of Sept. 26th in answer to my inquiry. It has introduced me to a very amusing book which I had never seen before, and incidentally to some wonderful derivations. Moreover, his reference to Upper School days suggested to me the source whence I got the quotation in question. It is given in Macleane's Horace, Sat. II., iv., in a note on the words, "pratensibus optima fungis Natura est: aliis male creditur." But the place is not a library at Vienna, but a monastery at Vallombrosa.—I am, Sir, yours faithfully,

EDWIN A. EADE.

United University Club, Pall Mall East, S.W., Oct. 7th, 1914.

FLY LARVÆ IN MANURE.

THE United States Department of Agriculture has recently experimented with a view to finding a non-poisonous substance which should be destructive to fly larvæ and have no injurious effects on manure. Among the substances tested were kerosene, iron sulphate, potassium cyanide, formaldehyde, calcium cyanamid, pyroligneous acid, common salt, copper sulphate, lime-sulphur mixture, Paris green, sodium fluorid, several proprietary disinfectants, and borax. Commercial borax was found to be the most effective, practical, and economical, and the weekly bulletin of the Chicago Department of Health gives the following directions for its use. Apply 1 lb. of borax to every 12 bushels (15 cubic feet) of manure immediately on its removal from the barn. The borax should be applied particularly around the outer edges of the pile with a flour sifter or other fine sieve, after which two or three gallons of water should be sprinkled over the borax-treated manure.

BETEL AND COCAINE.

To the Editor of THE LANCET.

SIR,—With reference to a recent paragraph entitled "Misri and Supari," referring to supari (betel nut) being supplied as a masticatory to the natives of India, I would point out that if our Indian troops spread the use of betel nut chewing as a habit a warning may be necessary. Your own India correspondent has said that at one time in Calcutta the drug (cocaine) was sold in two-pice packets and was retailed almost openly by the army of betel sellers. The betel sellers, it appears, put 1 grain of cocaine into the other ingredients of the *pan* (the *pan* is the betel leaf), so that many persons who would be most indignant if charged with being cocaine eaters are gradually acquiring a taste for the drug unknown to themselves.

I am, Sir, yours faithfully,

London, Oct. 10th, 1914. OBSERVER.

CHEMICAL INDUSTRIES.

THERE have been several references in the daily press recently to the German chemical industries. A few facts and figures taken from the German Year Book for 1914 show the strides that Germany made during the past 33 years. For instance, in 1880, their exports of chemical products were valued at £11,850,000, and in 1913 at £47,820,700. The number of employees doubled since the year 1895, being now over 280,000. The exports were made up of the following chemical products: chemical bases, acids, salts, £18,854,400; colours and dye stuffs, £13,402,200; varnishes, lakes, cements, &c., £367,900; ether, alcohols, essential oils, perfumery and cosmetics, £2,220,200; artificial manures, £2,710,600; explosives, £3,702,700; other chemical pharmaceutical products, £5,062,800. The editor says: "It is gratifying to see that the chemical industry enjoys great prosperity. The 308 joint stock companies in 1912 commanded a paid-up capital of £33,310,000, with reserves amounting to £9,920,000. The average dividend 13·95 per cent. was the highest in all branches of trade, except insurance."

ANTITYPHOID INOCULATION.

As there is so much discussion at the present juncture over the question of antityphoid inoculation for soldiers it may be worth mentioning that in Mr. Stephen Paget's new book, "Pasteur and After Pasteur," there is a good summary of the subject on pp. 128-35. Particularly forcible is the instance of the epidemic of 1912 in the barracks at Avignon, in which out of 2053 men 1366 were protected and 687 were not. In the unprotected minority there occurred 155 cases with 21 deaths; in the protected majority not one case, though living as they did in conditions otherwise precisely identical, they ought on that basis to have had 308 cases with over 41 deaths.

MOONSTRUCK.

To the Editor of THE LANCET.

DEAR SIR,—I beg to inform you that I have discovered a theory regarding Lunacy, which will if true cure all Lunatics. It is caused by the attraction of the moon which draws all the blood to the head and causes conjestion. The heart being weak is unable to pump blood away.

If stimulents were given a cure would be the result.

Yours truly,

Great Northern Hotel, King's Cross. JAS. S. LEE.

*** The above letter reached us by registered post with the postmark "Redcar."—ED. L.

PRUSSIAN MILITARY STEP.

THE military step, or tempo, or rate of marching is interesting from the point of view of the rate of fatigue of troops. In the eighteenth century the step was usually reckoned as 63 centimetres long and 80 to the minute in ordinary marching, with 140 to the minute for the "double step." In the Prussian orders for 1847 this was altered to 108 steps for the ordinary march and 120 for the bayonet charge, and each step of 75 centimetres long. Later it was altered to 112 steps for the ordinary march. Now the step is usually 80 centimetres long, 112 per minute for the ordinary pace, 120 for the accelerated pace, and 165 to 175 steps per minute each of one metre in running. What the rate of retreat is in cases of necessity is not defined.

WANTED—SUGGESTIONS FOR TREATMENT.

To the Editor of THE LANCET.

SIR,—May I ask for advice through THE LANCET on treating the following case: A heavy woman, 44 years of age, has pain in one heel on pressure and when standing or walking, not when resting or in bed. Any suggestions will be much appreciated.—I am, Sir, yours faithfully,

Chelmsford, Oct. 13th, 1914. JOHN L. MARTIN.

MISSING.

Joseph George Hole, a postman, of Chobham, Surrey, was last seen at Brighton on July 6th. The parents think that perhaps their son may be in some place ill, and would be obliged if any doctor could give them information of his whereabouts. The missing man is described as follows: age 36, height 5 ft. 8 in., fresh complexion, dark hair and moustache, false teeth, first two fingers of right hand deformed. It is thought that he may be suffering from loss of memory. Information may be given to the police at Chobham.

ENGLISH-MADE MEDICINALS.

Messrs. Burroughs, Wellcome, and Co. announce that they are able to supply cocaine and cocaine hydrochloride manufactured throughout at their "Wellcome" chemical works at Dartford in Kent. They also prepare at the same place ernutin (the essentials of ergot) and a series of glycerophosphates, the calcium, iron, magnesium, potassium and sodium salts.

AN INSURANCE PHARMACOPŒIA.

AN addition to the crop of Insurance Act literature is "Standard Prescriptions for Insurance Practice," by Dr. C. H. Gunson, of the Isle of Ely Insurance Committee. It is a useful little formulary with the ordinary type of collyria, gargles, lotions and sprays, and mixtures, pills, ointments, powders, &c. There is evident rather a tendency to polypharmacy, prescriptions containing six or seven ingredients being fairly frequent. It is thought that the adoption of a book of this character by doctors and dispensers will save much tedious writing. That may benefit the doctor who uses it, but unless all the panel doctors in the locality agree in the selection of the same formulary the chemist's time would seem to be fully occupied in hunting up each particular doctor's formula and making up the particular brand of, say, mistura bismuthi ordered therein. To be a real time- and effort-saver to both chemist and doctor the formulary must be generally used, and that is hardly likely to be the case unless it is drawn up by common consent by the local practitioners or is selected for use by authority. Dr. Gunson's little book is published by the Scientific Press, Limited, and the price is 1*s.*

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY.—4.30 P.M., Clinical Cases. 5 P.M., Resumed Discussion on Some Points in the Treatment of Syphilis.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.15 P.M., Exhibition of Clinical Cases.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

MONDAY.—4 P.M., Harveian Oration:—Sir R. Douglas Powell.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.

Museum Demonstrations for Advanced Students and Medical Practitioners:—

MONDAY.—5 P.M., Mr. S. G. Shattock: Specimens illustrating Carcinoma.

WEDNESDAY.—5.30 P.M., Mr. J. F. Colyer: Specimens of Injuries to the Jaws and Teeth of Animals.

FRIDAY.—5 P.M., Prof. A. Keith: Specimens illustrating Gunshot Injuries of the Limbs.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman and Mr. Gibb: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. Dr. Owen: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 10 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. Bernstein: Applied Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Eye Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. R. Russell: Paralysis of Cranial Nerves.

FRIDAY.—3.30 P.M., Lecture:—Dr. A. Turner: Clinical Cases.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

THURSDAY.—ANCOATS HOSPITAL, Mill street.—4.30 P.M., Mr. H. Platt: Tuberculosis of the Spine.

For further particulars of the above Lectures, &c., see Advertisement Pages.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 14th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 8	30·326	S.E.	...	83	61	46	46	48	Foggy
,, 9	30·246	S.W.	...	98	64	48	49	51	Overcast
,, 10	30·150	N.	...	89	61	57	52	54	Fine
,, 11	30·130	S.E.	...	87	59	48	49	52	Cloudy
,, 12	30·170	S.E.	...	71	59	43	45	46	Hazy
,, 13	29·704	S.E.	0·10	61	55	46	48	50	Cloudy
,, 14	29·790	N.E.	0·04	56	54	50	51	52	Raining

The following magazines, journals, &c., have been received:—Tropical Medicine and Hygiene, American Journal of Medical Sciences, Maryland Medical Journal, Archives of Roentgen Rays, Review of Neurology and Psychiatry, Child, St. Bartholomew's Hospital Journal, Edinburgh Medical Journal, American Medicine, Medical Review, Surgery, Gynecology, and Obstetrics, Archives of Pediatrics, Malaria, Post-Graduate, Journal of Mental Science, London Hospital Gazette, South African Nursing Record, South African Medical Record, &c.

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